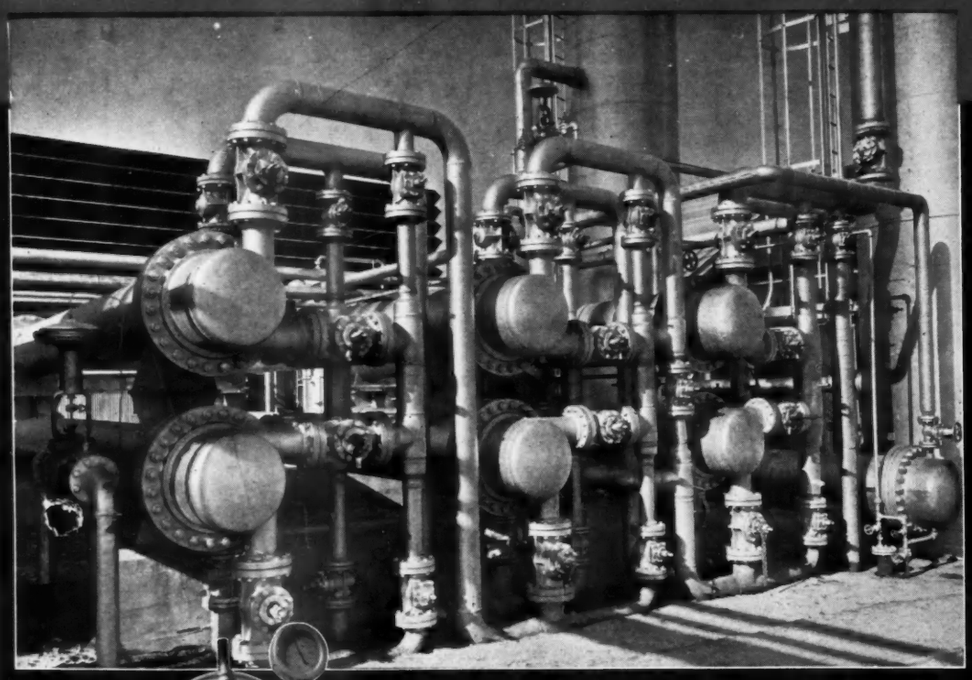
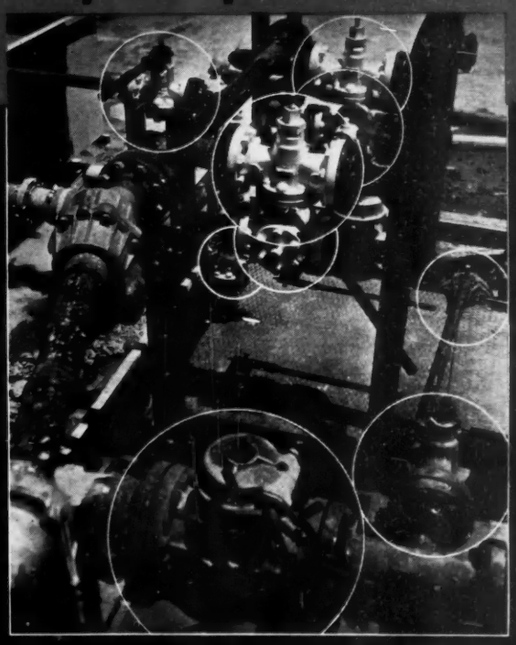
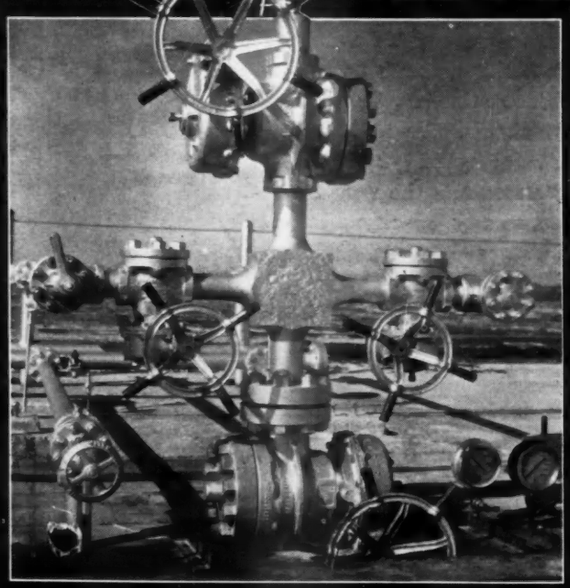
NORDSTROM VALVES keep upkeep down



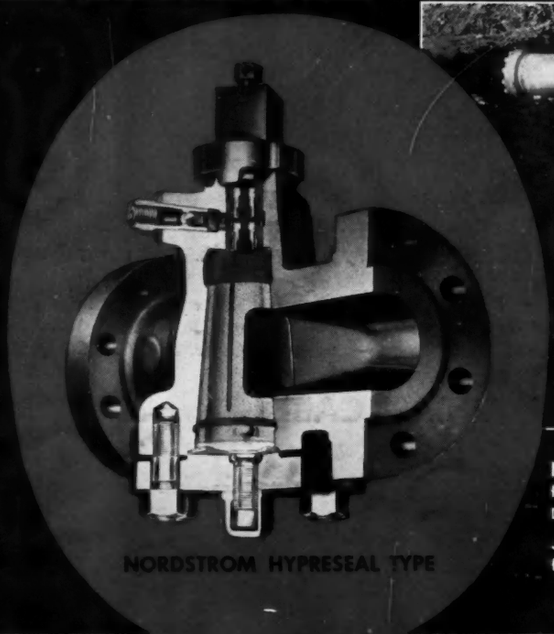
A BATTERY OF NORDSTROM VALVES ON HEAT EXCHANGER



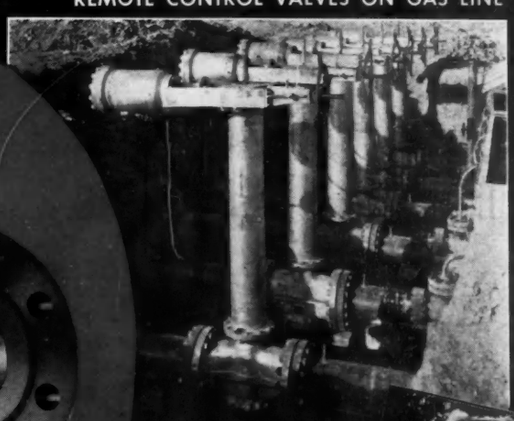
NORDSTROMS ON SUCTION & MUD PUMP LINES
REMOTE CONTROL VALVES ON GAS LINE



HYPRESEAL VALVES ON CHRISTMAS TREE



NORDSTROM HYPRESEAL TYPE



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'WAY BACK IN MAY, 1933 we advertised the fact that "WE LIKE 'EM HARD-BOILED"

We still do. We *want* to be made to prove our case. And what we said about wire line purchasing *then* applies with even greater force today. Demand proof of quality and service. When we say TRU-LAY Preformed lasts longer—is safer for drilling crew to handle—*make us prove it*. When we say TRU-LAY Preformed resists kinking, spools better, whips less or saves sheave wear—*make us prove it*. Be **hard-boiled** about it. We'll come through with proof. We've collected gobs of it during the past sixteen years. Convincing hard-boiled superintendents is the way we hatch our best customers. Shrewd and careful buyers invariably specify TRU-LAY Preformed once they have used it. And shrewd buyers always—

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YOU CAN BE SURE OF WITH A

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WASH-DOWN WHIRLER
FLOAT SHOE

1. **GUIDING** is efficiently done, due to the rounded nose of the concrete guide which leads the casing past side wall irregularities.

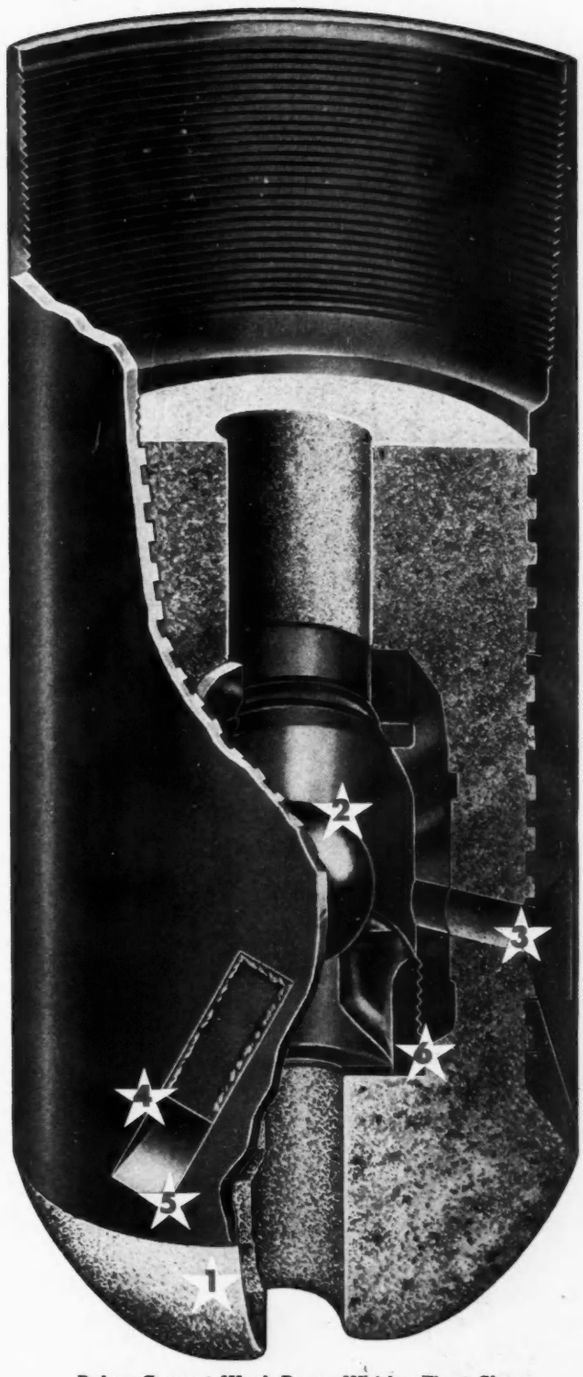
2. **FLOATING** is safely performed due to the efficient Baker BALL-TYPE Back-Pressure Valve which provides a positive, leak-proof seal against either high or low pressure.

3. **REMOVING BRIDGES and WASHING DOWN** is an outstanding feature of Baker Cement Wash-Down Whirler Shoes. Circulation fluid passes out of the shoe through a number of baffled side ports, (cut in the wall of the shoe at a downward angle), as well as through a central restricted passage. The resulting downward jetting action washes away the sides and center of the bridge and the formation is readily circulated up the hole as it is removed. As the bridge is disintegrated and washed away, the pipe is lowered through a free hole without danger of being stuck.

4. **WASHING FORMATION** at and above the cementing point, properly preparing the wall of the hole to receive the cement slurry, is another important result. While there is sufficient inclination of the hydraulicking stream to produce a whirling action, it is not forced directly against the wall of the hole, thus avoiding cavings being created.

5. **BETTER CEMENTING** is accomplished by the definite downward as well as upward whirling action imparted to the slurry. As illustrated, this whirling action results in a more nearly complete encasement of the pipe with a uniform body of cement with the hazard of channeling reduced to a minimum.

6. **DRILLABILITY** is always assured as the internal construction of Baker Cement Guiding, Floating, Cementing Equipment units consists only of Baker-Formula Concrete and a small amount of Bakelite which are quickly and easily drilled up into small harmless fragments and circulated out of the hole.



Baker Cement Wash-Down Whirler Float Shoe

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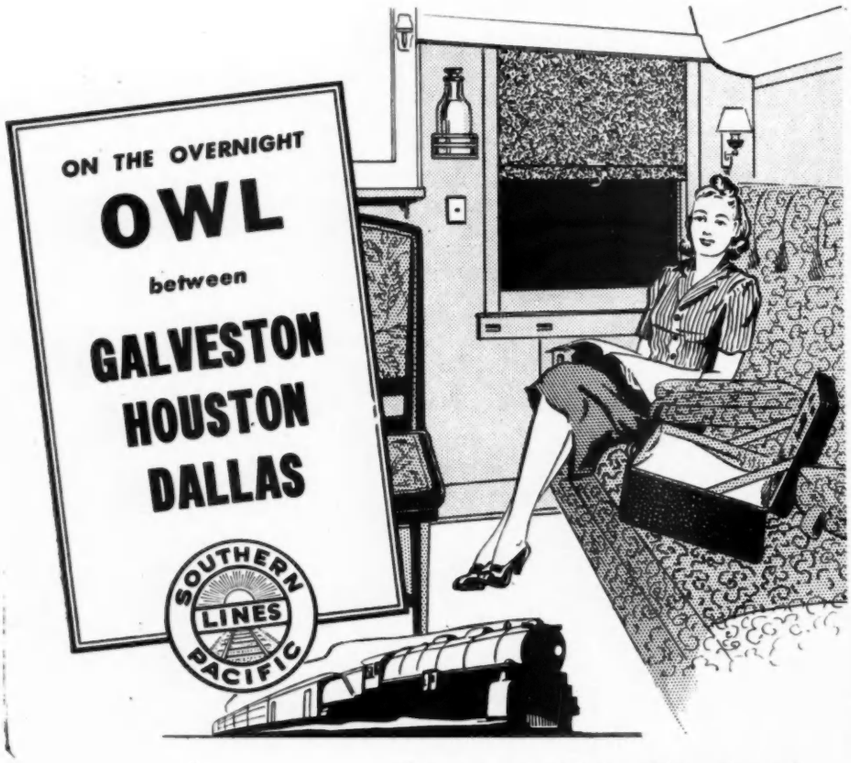

Now you may enjoy additional travel-comfort on the popular *Owl*—the extra space and privacy of an air-conditioned *Double Bedroom*. Enjoy this desirable advantage on your next trip!

Northbound

Lv. GALVESTON .... 7:10 P. M.
Lv. HOUSTON .....11:30 P. M.
Ar. DALLAS .....*6:55 A. M.

Southbound

Lv. DALLAS .....11:30 P. M.
Ar. HOUSTON .....*6:30 A. M.
Ar. GALVESTON..... 9:45 A. M.

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Looking Ahead
WITH THE EDITOR

GAS-LIFT, Oklahoma City and S. F. Shaw have become synonomous in the literature of production technique. It was in the Oklahoma City field that gas-lift first found extensive application in a large and deep producing area, and on hand, contributing much to its development as well as recording its progress, was S. F. Shaw early gas-lift enthusiast. Many thousands of words were published describing gas-lift practice at Oklahoma City while operations were in full swing but discussions were confined largely to specific applications and in the rush of the moment it was difficult to draw general conclusions. Now that these operations have passed largely into history, engineer-writer Shaw says it is time to correlate these experience data and complete the final chapter of an important era in gas-lift development. He has done this in a two-part article to appear soon.

PICTORIAL REPORTING is the high-sounding term used in journalistic circles to describe the newest publishing technique of telling stories with pictures. Of course, the use of pictures to illustrate text has been a good publishing practice lo these many years but not until the advent of "Life" and other picture magazines were the possibilities of pictorial reporting fully appreciated. If pictures can be made to adequately record the events of a complex world how much greater their value for visualizing the intricate workings of a technical operation? This is why your editors decided several years ago to increase the number of illustrations used in THE OIL WEEKLY and to provide for a number of strictly pictorial articles as a definite part of their yearly editorial program. The many fine comments made by you readers on these pictorial features are encouragement enough but now that ye editors have won a national award (see page 12) you may expect more and better picture articles in the future.

The OIL WEEKLY, Published every Monday. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

Drill Your Wildcats from Grass Roots to the Bottom with Cable Tools

. . . then use the same rig for rotary drilling after the formations are tested

Oil men with years of experience have proved that when a well is drilled with cable tools the paying stratas are not missed, and although rotary drilling is faster, the "pay" is often sealed off with the drilling mud.

Years of experience in every important oil field in the world have proved a "Cardwell" combination drilling rig is the most practical and profitable rig for wildcat drilling. These are the reasons:

BOTH ROTARY AND CABLE TOOL DRILLING are most economical with this rig. Only three to four hours are required to change from cable tool to rotary tools. In addition to the cable tool rig, the only assembly needed is the rotary table drive, costing only $485.

THE ENGINE AND HOISTING DRUMS, with beam, spudder or rotary table drive attachment, are assembled on one skid, making a compact, one-piece rig that is easily handled and transported.

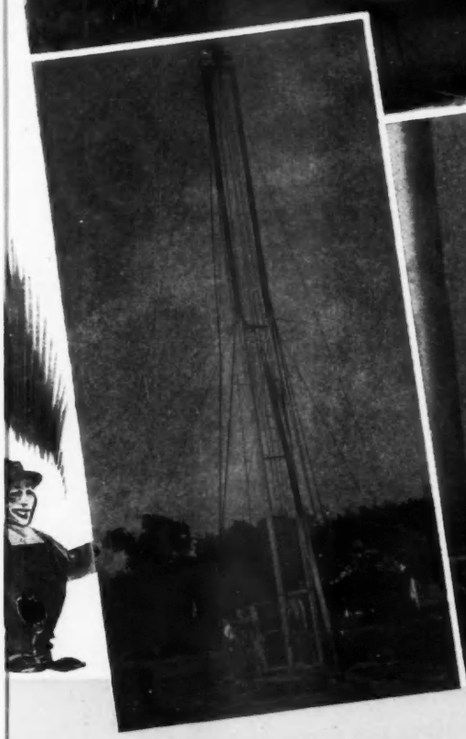
FAST, EFFICIENT OPERATION is possible because of the friction clutch driven drums. The cable tools or drill stem may be lifted quickly when cave-ins occur, without stopping the spudding motion or rotary table. This important "Cardwell" feature eliminates 90% of the hazard of stuck tools or drill pipe.

A LONG SUBFRAME is available for mounting the rotary table and mast seat for the 65- or 87-foot double leg drilling mast. This outfit may be purchased as a completely assembled portable drilling rig mounted on pneumatic tires or "Caterpillar" tracks.

THREE SIZES of "Cardwell" combination drilling rigs are available for cable tool drilling to 7,500 feet and rotary drilling with 4½-inch drill pipe to 7,500 feet.

OIL MEN HAVE FOUND IT MUCH CHEAPER to use "Cardwell" rigs year after year for any kind of drilling or servicing. These men have found an actual saving of 25% in transportation costs and rig-up time. Ask any of the 1600 "Cardwell" owners.

TWENTY-FOUR HOUR PARTS SERVICE is available from "Cardwell" controlled parts stock stores convenient to all important oil fields in the United States.



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HOUSTON OFFICE: COMMERCE BLDG

Letters to the Editor

Inventory vs. Cash

DEAR SIR:

The editorial on page 39 of the September 16 issue of your publication is a very timely one, and it is my feeling that if you elaborate on this in some of your succeeding issues you will be doing the industry much good.

This company is one of those northern companies that is looking for skilled mechanics because we have received some defense orders. However, as you know, we also sell to the oil country trade and, in common with a number of manufacturers, we have noticed a decided decrease in our business from the oil field.

At this time it is our thought that inventory is worth more than money in the bank. We believe this so thoroughly that today our inventory is considerably higher than it has ever been in the history of this company. We decided on tremendously increasing our inventory because we are convinced that deliveries are going to be slower on anything made of iron and steel, and deliveries are going to slow up on all raw material. Also, we definitely know that today's prices are the lowest the industry is going to see for at least a matter of several years. Therefore, it is our conviction that anything you can do to increase the flow of business to the manufacturer is going to be a move in the right direction, and also the time is coming when those oil companies who follow your suggestion will congratulate themselves on their foresight and feel happy about what they have saved, not only in price but their ability to proceed with plans made possible by having equipment and supplies on hand.

W. R. KARLL,
General Sales Manager.
LeRoi Company,
Milwaukee, Wisconsin.

DEAR SIR:

With reference to your editorial "Time to Buy Is Now," in THE OIL WEEKLY, [September 16, page 39] you will be interested to know that there are already some rather refinite signs of extended delivery on certain heavy duty bearings. I think that you are entirely right in what you had to say in the editorial.

A. M.
Fort Worth, Texas.

Still More About Spacing and Profits

The following letter grew out of correspondence which was based upon an article in THE OIL WEEKLY of July 29, dealing with the lengthening payout time under proration. It is specifically in answer to a letter in which the publisher said that he had been turning over in his own mind the thought that wider well spacing of itself would not solve the industry's problem, and that one solution to it might be production purely on a basis of avoiding physical waste with no consideration given to market demand. This idea had been discussed with several oil company executives who had expressed the fear that it might result in a flood of oil which would mean economic, if not physical, waste.

DEAR SIR:

In answer to your letter of August 21, I am sure you are entirely right in saying that well spacing is not our only solution to the present problem, but also the actual application of conservation measures that are now known. These involve, of course, the returning of gas to the reservoir in the primary stages of development, which not only conserves the natural reservoir energy, but gives a greater ultimate recovery and, third, but not least important, the great majority of the reservoir oil can be flowed at less than one third the cost of pumping under the majority of present practices. If this is done in the primary stages before the critical point is reached where the gas comes out of solution, the great benefits can be derived. If this plan were followed through, you would wind up with the majority of the oil produced by flowing and a reservoir full of gas at something of a lesser pressure than it originally contained. This gas could then be held for future commercial supply, or better still, could be used to pipe to another field to supply supplementary gas for primary pressure maintenance or to older fields where secondary recovery methods might be employed, such as repressuring. This plan, I feel, is inevitable. It is only a question of time when it can be adopted. Legislation is now under consideration for introduction perhaps next year, which if passed, would allow for cooperative effort in this direction.

It does seem a pity that even in secondary recovery plans, such as is being considered at Oklahoma City, cannot be consumated for the reason that a few individuals—either royalty owners or operators being even one percent or less in the minority, could stifle an effort which might mean the additional recovery of several millions of barrels of oil and such is the case now.

The idea which you mention as revolutionary—that is to produce the pools under the best known and efficient methods of conservation, disregarding market demand, I must inform you is not new. This idea perhaps not in so many words is incorporated in the Cole Bill which was known as H. B. 7273 and what the bill lacked, Mr. Ickes in his testimony before the Cole Committee last November specifically said in effect that would be the plan if the Cole Bill were enacted—that is to disregard market demand and produce the fields under the latest methods of low gas/oil ratio, lease drop in bottom-hole pressure, etc. The objection of the industry was, of course, the question of the possibility of an inexperienced gov-

[*Continued on page 64*]

The hour-glass, like the notch-candle, recorded only a rough idea of the time of day.

The modern watch is thin, compact, precision-made. The finer watches have 23-jewel movements, are adjusted for heat and cold to five positions.

GRAY'S POLICY OF

Continuous Improvement

DOESN'T BY-PASS THE LITTLE THINGS

Gray Systems of Well Control were pioneered and developed to provide complete protection during the entire sequence of operation from drilling, through production, inclusive. Gray's policy of continuous improvement has meant continuously better systems of well control — systems that are flexible and allow parts to be readily interchanged under pressure; systems that reduce obsolescence; that definitely provide for long-range economy. But first, last and always the primary goal has been safety.

Gray recognizes that a system of well control is only as safe as its weakest link. That being true, painstaking care is exercised in the design and manufacture of the smallest part—be it a set screw or a pin the size of a match—as with the heaviest housing.

This attention to every detail has borne fruit: to date Gray Systems of Well Control have effected over 8,500 consecutively successful completions in the field.

GRAY

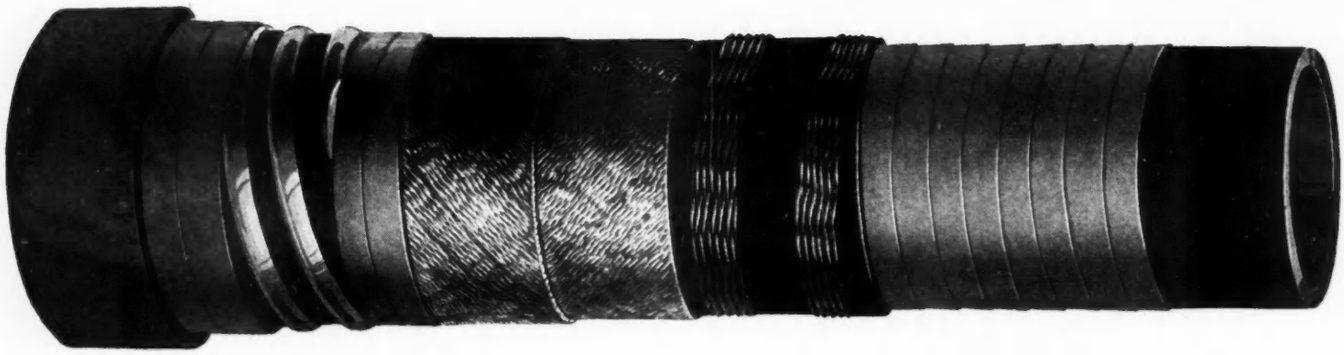
TOOL COMPANY

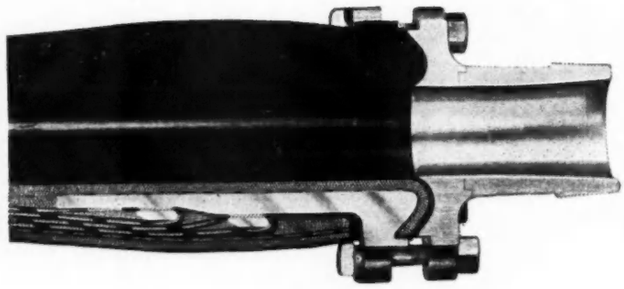
H O U S T O N

***West Coast Distributors:* WAGNER-MOREHOUSE, INC., Los Angeles**

New Thermoid ROTARY HOSE

Has Set the Pace for Quality and Utility





Thermoid Built-in Couplings

Proper couplings are extremely important to efficient performance of Rotary Hose. Thermoid Built-in Couplings provide absolutely smooth inner contours with absolutely nothing to interrupt the flow at the connection. Here is a coupling that is so truly "built-in" that it becomes an integral part of the hose itself. Among its other important advantages are included:

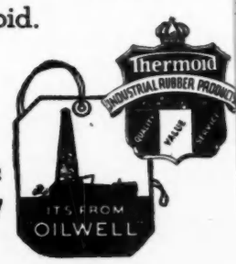
- ★ **Strong reinforcement at the end of the hose.**
- ★ **Complete coupling is considerably lighter in weight.**
- ★ **Positive elimination of coupling leaks and failures.**
- ★ **Simplicity of contour, superior strength and ruggedness.**
- ★ **Easily replaceable coupling head.**

Already Thermoid's newest development in Rotary Hose has been acclaimed by the oil industry . . . not only for its obvious advances in design and construction, but for its actual performance in the field.

This new Thermoid Rotary Hose is available in four different constructions . . . each specifically designed to meet a basic drilling condition.

Illustrated here is Thermoid's new No. 3520 Rotary Hose. It is built to withstand an initial test pressure of 5000 pounds. Reinforced with three layers of braided wire applied at reverse angles it assures maximum flexibility. The special crescent-shaped wire adds extra strength. No. 3520 has proven to be vastly superior in all regular drilling operations.

For lowest cost per drilling foot, you need the right type hose for your drilling operations. To be sure you get the right type, specify Thermoid.



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THE OIL WEEKLY

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The Oil Man's Calendar

OCT. 2–3	West Virginia Oil and Natural Gas Association, Charleston.
4	Western Petroleum Refineries Association, Regional Meeting, Wichita.
7–10	American Gas Association, Atlantic City, N. J.
7–11	National Safety Congress and Exposition, Chicago.
15	National Stripper Well Association, Dallas.
16–18	Independent Petroleum Association of America, Dallas.
17–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.
24–26	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Tulsa.
25	Western Petroleum Refiners Association, Regional Meeting, Shreveport.
31–Nov. 2	Texas Mid-Continent Oil & Gas Association, Ft. Worth.
NOV. 1	California Natural Gasoline Association, Los Angeles.
	American Association of Petroleum Geologists, Pacific Section, Los Angeles.
11–15	American Petroleum Institute, Chicago.
1941 FEB. 22	North Texas Oil & Gas Association, Wichita Falls.
27–28	American Petroleum Institute, Division of Production, Southwestern District, Shreveport.

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42% Time Saving with

THIS TOOL on THIS MACHINE Making this PART

• In the shops of the Deming Co., Salem, Ohio, one of the country's oldest pump manufacturers, this job, a bronze internal bearing housing, was formerly produced on two turret lathes requiring 4.8 minutes per piece, without threading the large diameter.

Warner and Swasey engineers suggested using the new Adjustable Single Turning Head, with a special chaser and lead screw arrangement. The job, including threading, is now done *on one machine,* a No. 3 Universal Warner and Swasey. New time—2.8 minutes per piece, compared to 4.8 minutes formerly required, with 1½ hours saved in set-up time.

Why not find out what these new tools will save you? Write!

WARNER & SWASEY
Turret Lathes
Cleveland

YOU CAN TURN IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

THE OIL WEEKLY

SEPTEMBER 30, 1940

VOLUME 99 NUMBER 4

The Week's Panorama

REFINERY runs have been expanded materially beyond economic proportions. In averaging 3,680,000 barrels daily in the week ended September 21, the runs were within 10,000 barrels of the all-time peak that was reached in June.

• • • At 3,680,000 barrels daily, the crude runs were almost 300,000 barrels in excess of the daily average regarded as economically desirable from now until next March 31, in view of the present over-large stocks of gasoline.

• • • The large runs to stills resulted in production of gasoline which set a record for 1940 and which almost equaled the all-time high of last October.

• • • Withdrawals of gasoline from storage consequently were slowed down, and the taking of 340,000 barrels from the tanks during the week left on hand 82,960,000 barrels as of September 21.

• • • Although the gasoline inventory will be still above 80,000,000 barrels September 30, economists have estimated that actual requirements for the normal operation of the industry at that time would be only about 65,000,000 barrels.

• • • If that estimate is correct, the industry will be handicapped with over 15,000,000 barrels of surplus gasoline upon entering the fall-winter season, during which seasonal accumulation of gasoline in storage is to be expected.

• • • Only by eliminating or holding below normal the usual fall-winter buildup of gasoline stocks can the industry avoid carrying the 15,000,000-barrel surplus through to next spring.

• • • Even at the present level, the gasoline inventory is almost as large as would be necessary at the beginning of next spring, economists having estimated that about 85,000,000 barrels would be adequate upon entering the spring-summer season of 1941.

• • • Even if the weather is normal during the coming winter, demand for heating oil will be 6 percent larger than the record-breaking requirements of last winter. For it is estimated that oil burners in use will be 250,000 more numerous than the 1,900,000 in operation last season, after allowing for replacements. And extremely cold weather like that of last winter might mean an increase of as much as 13 percent in the heating oil demand.

• • • In its publication, The Lamp, Standard Oil Company of New Jersey has stated that it is possible for the industry to meet the expected heavy demand for heating oil and at the same time to reduce its excessive stocks of gasoline approximately to working levels by next April 1.

• • • To achieve both reuslts, the magazine said, crude runs from October 1 to March 31 averaging around 3,390,000 barrels daily would be needed, with average gas and fuel oil yields for the country of 15.7 percent and motor fuel yields of 42.6 percent.

• • • Such yields of heating oil already have been shown to be easily attainable, without modification of existing equipment, according to the magazine.

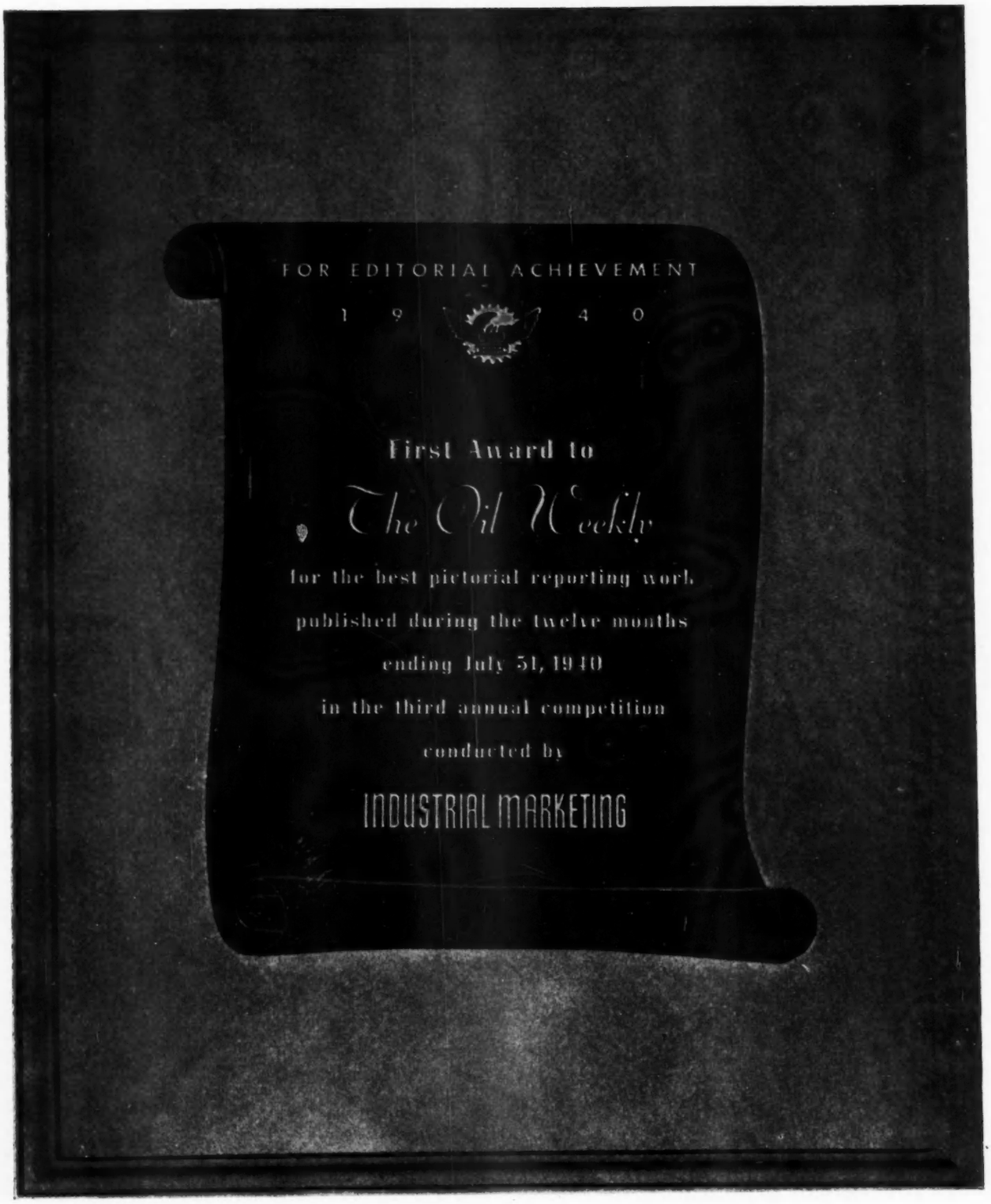
• • • The suggested runs to stills of 3,390,000 barrels a day would compare with an average of 3,550,000 barrels daily during the past heating season.

• • • In further comment on heating oil, the oil company publication offered the prediction that gas oil and distillate might eventually rival motor fuel as the industry's principal product.

• • • Nevertheless, the assurance was given that with minor modifications in refining equipment, the petroleum industry could practically double the present average heating oil yield of about 15 percent that is obtained from crude oil.

• • • Of all the ways that a farmer can go to town, the most common is by automobile, as 85 percent of farm families own motor vehicles. . . . Of the moderate-income city families, 44 percent own automobiles.

• • • In July, 1940, total exports of crude and refined oils from the United States were 5,000,000 barrels, or 30 percent, smaller than in July, 1939, having decreased from 16,926,000 to 11,826,000 barrels. Shipments of crude were down 23 percent, from 7,304,000 to 5,607,000 barrels. Exports of refined products in the aggregate were off 35 percent, from 9,622,000 to 6,219,000 barrels. Gasoline exports of 1,686,000 barrels in July, 1940, were less than half of the 3,585,000 barrels shipped in July, 1939. The only major product exported in greater quantity was heavy fuel oil. Even lubricating oil, heretofore shipped out in larger amount than before the war began, showed a July-to-July decrease.



THE OIL WEEKLY WINS EDITORIAL ACHIEVEMENT AWARD

In a national competition on editorial achievement, sponsored by *Industrial Marketing* for industrial publications, THE OIL WEEKLY has won the highest award for the best pictorial reporting job done during the year ended July 31, 1940. The award in the form of an engraved plaque, reproduced above, was presented at a session of the National Industrial Advertisers Association's annual conference in Detroit last week. Editors of 100 business publications entered 234 pieces of their work and 14 awards were made in five classifications. A pictorial exposition, "Science of Today's Oil-Field Exploration," obtained the award for THE OIL WEEKLY. It figured as a part of a special issue published April 8, 1940, honoring the twenty-fifth anniversary of the American Association of Petroleum Geologists. Eight pages of photographs depicted the part in modern exploration of coring, paleontology, geophysics, logging, geochemistry and aerial mapping.

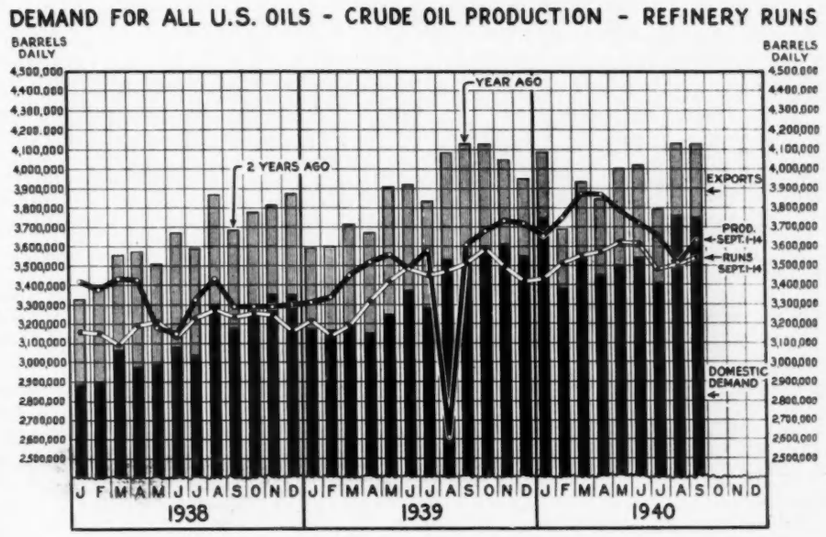
Surplus Gasoline Chief Flaw In Oil Picture

THE oil industry has continued to hold the advantage of relatively large total demand for its products, despite poor export business; and operations at wells and refineries have been generally upon an economic basis, with the result that inventories currently are mostly satisfactory, with exception of gasoline stocks, which long have been excessive.

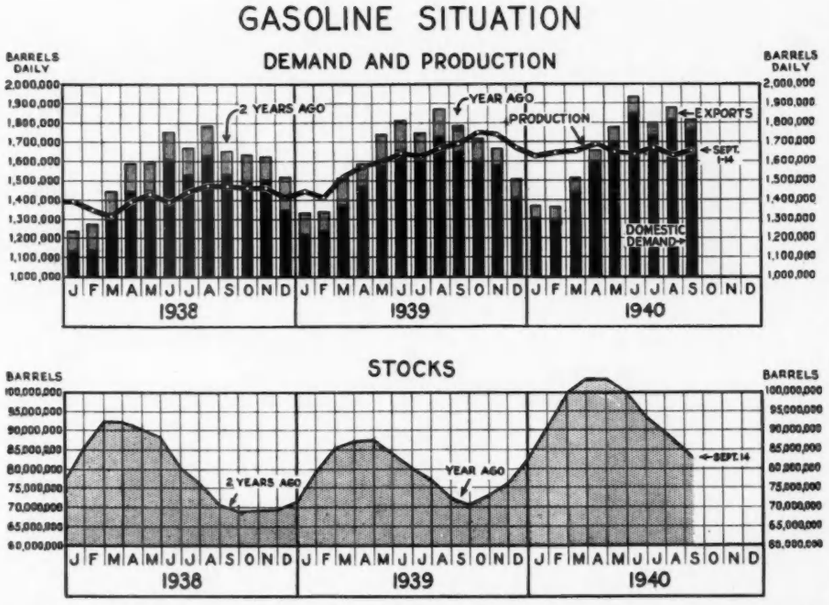
The dearth of foreign business and the market-depressing gasoline stocks remain the chief handicaps of the industry; and although there is no remedy for the former, the industry could alleviate the gasoline situation in coming months by rigidly holding down the yield of that product at the refineries, while also strictly limiting crude runs to stills, in line with actual requirements for fuel oils, lubricants, and other products.

Limitation of refinery runs to comparatively low levels likely would be facilitated by the fact that the industry is entering the fall-winter period with a relatively large inventory of heating oil, which may make unnecessary the production of large quantities of surplus gasoline.

It is generally regarded as likely that domestic demand for gasoline will continue, as heretofore, to show gains of 5 to 6 percent over a year previously, and that exports henceforth may be down 40 to 50 percent, as they have been lately, indicating that total demand may be up around 3 percent. Such a gasoline situation may prevail at least until next spring.


DEMAND FOR ALL U.S. OILS - CRUDE OIL PRODUCTION - REFINERY RUNS
BARRELS DAILY
YEAR AGO
2 YEARS AGO
EXPORTS
PROD. SEPT. 1-14
RUNS SEPT. 1-14
DOMESTIC DEMAND
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1938
1939
1940

Source: Bureau of Mines, except data for August and September, 1940, which are estimates.


GASOLINE SITUATION
DEMAND AND PRODUCTION
BARRELS DAILY
2 YEARS AGO
YEAR AGO
PRODUCTION
EXPORTS
SEPT. 1-14
DOMESTIC DEMAND
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1938
1939
1940
STOCKS
BARRELS
2 YEARS AGO
YEAR AGO
SEPT. 14
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1938
1939
1940

Source: Bureau of Mines, except data for August and September, 1940, which are estimates.

Economists have estimated that even if gasoline demand is comparatively large next spring and summer, it could be efficiently and amply fulfilled without the necessity for more than 85,000,000 barrels in storage at the outset of that heavy-consuming period, that is, on March 31, 1941.

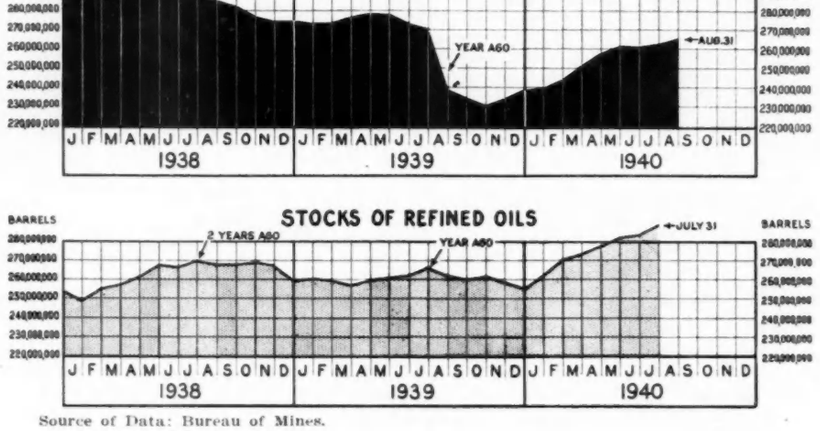
On the assumption that brisk business in heating oils will induce refiners to take subnormal yields of around 43 percent of gasoline from the crude they process, economists have calculated that gasoline stocks could be held down to the 85,000,000-barrel economic level as of March 31 only by restricting crude runs to stills to an average of 3,400,000 barrels daily between September 30, 1940, and March 31, 1941.

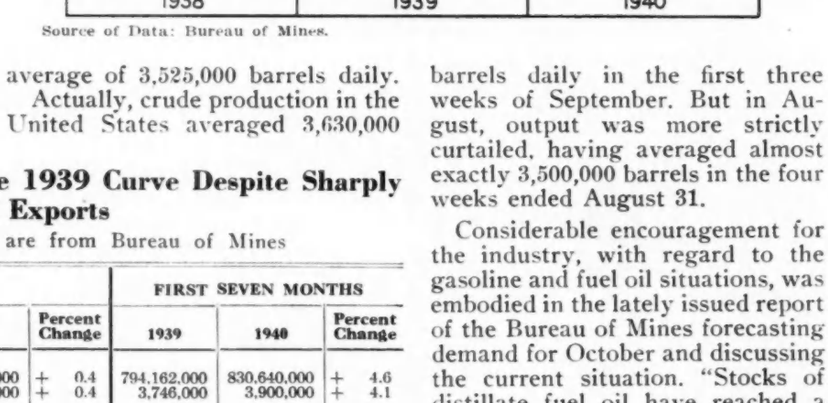
Such curtailment of refinery op-

erations appears unlikely, however, in the light of recent trends. Runs to stills jumped 100,000 barrels in the week ended September 21, to near-record proportions of 3,680,000 barrels daily. (The all-time high was 3,690,000 barrels, reached in the week ended June 22, 1940.) However, some promise is offered by the fact that runs were held to 3,435,000 barrels daily in the week ended August 10 and to 3,485,000 barrels in the week of August 24, with crude production held down by the natural decline in Illinois and strict August allowables in the Mid-Continent.

When allowance is made for the use of about 125,000 barrels of domestic crude daily for other purposes, it is indicated that the holding of gasoline stocks to 85,000,000 barrels as of March 31 would require restriction of crude production in the fall and winter to an average of 3,525,000 barrels daily.

Actually, crude production in the United States averaged 3,630,000 barrels daily in the first three weeks of September. But in August, output was more strictly curtailed, having averaged almost exactly 3,500,000 barrels in the four weeks ended August 31.





Source of Data: Bureau of Mines.

Total Oil Demand Holds Above 1939 Curve Despite Sharply Curtailed Exports

Figures indicate barrels, and are from Bureau of Mines

	JULY			FIRST SEVEN MONTHS		
	1939	1940	Percent Change	1939	1940	Percent Change
SUMMARY—						
Total Demand	117,286,000	117,702,000	+ 0.4	794,162,000	830,640,000	+ 4.6
Daily average	3,783,000	3,797,000	+ 0.4	3,746,000	3,900,000	+ 4.1
Exports:						
Crude petroleum	7,304,000	5,607,000	— 23.3	42,253,000	32,022,000	— 24.2
Refined products	9,622,000	6,219,000	— 35.4	68,505,000	49,935,000	— 27.1
Total exports	16,926,000	*11,826,000	— 30.1	110,758,000	81,957,000	— 26.0
Domestic Demand:						
Total domestic demand	100,360,000	105,876,000	+ 5.5	683,404,000	748,683,000	+ 9.6
Daily average	3,237,000	3,415,000	+ 5.5	3,224,000	3,515,000	+ 9.0
TOTAL DEMAND FOR PRODUCTS						
Motor Fuel:						
Domestic	50,508,000	53,865,000	+ 6.6	308,726,000	332,487,000	+ 7.7
Exports	3,585,000	1,686,000†	— 53.0	26,980,000	14,776,000	— 45.2
Total	54,093,000	55,551,000	+ 2.7	335,706,000	347,263,000	+ 3.5
Aviation Gasoline (include1 above):						
Domestic	‡	689,000	.....	‡	3,091,000	.....
Exports	266,000	210,000	— 21.0	2,872,000	2,102,000	— 26.8
Total	.....	899,000	.....	.....	5,193,000	.....
Kerosene:						
Domestic	3,710,000	4,257,000	+ 14.8	33,772,000	39,305,000	+ 16.4
Exports	774,000	227,000	— 70.7	4,499,000	2,518,000	— 44.0
Total	4,484,000	4,484,000	0.0	38,271,000	41,823,000	+ 9.3
Gas Oils & Distillate Fuels:						
Domestic	6,938,000	7,493,000	+ 8.0	78,157,000	94,300,000	+ 20.6
Exports	2,857,000	1,837,000	— 35.7	18,775,000	13,163,000	— 29.9
Total	9,795,000	9,330,000	— 4.8	96,932,000	107,463,000	+ 10.9
Residual Fuel Oils:						
Domestic	23,442,000	23,800,000	+ 1.5	179,352,000	190,937,000	+ 6.5
Exports	1,144,000	1,387,000	+ 21.2	10,521,000	9,097,000	— 13.5
Total	24,586,000	25,187,000	+ 2.4	189,873,000	200,034,000	+ 5.3
Lubricants:						
Domestic	1,982,000	1,871,000	— 5.6	13,035,000	13,677,000	+ 4.9
Exports	1,022,000	741,000	— 27.5	6,280,000	7,500,000	+ 19.4
Total	3,004,000	2,612,000	— 13.1	19,315,000	21,177,000	+ 9.6
Wax (pounds):						
Domestic	16,897,000	30,333,000	+ 78.6	147,919,000	177,188,000	+ 19.8
Exports	16,655,000	8,992,000	— 46.0	141,613,000	138,798,000	— 2.0
Total	33,552,000	39,325,000	+ 17.2	289,532,000	315,986,000	+ 9.2
Coke (short tons):						
Domestic	90,700	120,300	+ 32.4	758,900	789,700	+ 4.1
Exports	31,500	20,100	— 36.2	148,400	137,100	— 7.6
Total	122,200	140,400	+ 14.9	907,300	926,800	+ 2.2
Asphalt (short tons):						
Domestic	554,100	658,100	+ 18.8	2,472,400	2,543,500	+ 2.9
Exports	3,000	25,000§	.....	26,800	182,700	.....
Total	557,100	683,100	.....	2,499,200	2,726,200	.....
Road Oil:						
Domestic	1,585,000	1,629,000	+ 2.8	4,338,000	4,016,000	— 7.4
Miscellaneous:						
Domestic	182,000	215,000	+ 18.1	1,295,000	1,115,000	— 13.9
Exports	8,000	72,000	+ 800.0	56,000	696,000	+1142.0
Total	190,000	287,000	+ 51.0	1,351,000	1,811,000	+ 34.1

* Exclusive of 9,000 barrels exported from non-contiguous territories but inclusive of 850,000 barrels shipped from U. S. to territories. † Includes benzol, 1,000 barrels in July, 1940. ‡ Not available. § Beginning January, 1940, includes both manufactured and unmanufactured asphalt; only unmanufactured asphalt being previously shown.

Considerable encouragement for the industry, with regard to the gasoline and fuel oil situations, was embodied in the lately issued report of the Bureau of Mines forecasting demand for October and discussing the current situation. "Stocks of distillate fuel oil have reached a point 7 million barrels above a year ago," the bureau stated, "which indicates the possibility of a further curtailment in crude runs during the winter months. This automatically would help to correct the gasoline inventory situation. It may be possible to keep gasoline stocks at a practically stationary level during the last quarter of 1940 as compared with the abnormal increase of almost 12 million barrels in the same period of 1939." (The gasoline inventory totaled 82,960,000 barrels on September 21.) The bureau previously had pointed out that the fuel-oil situation had become easier, due to a smaller increase in domestic demand than was anticipated and to the expectation of decreased exports and larger imports.

No material change in the current trend of petroleum demand is at present within sight. The most recent estimate was that of the Bureau of Mines, forecasting that domestic motor-fuel demand would be 7 percent larger in October, 1940, than in October, 1939. At the same time, the bureau stated that forecasts of the principal shippers indicated relatively low gasoline exports again for October, and that

the agency estimated exports at 1,600,000 barrels, the same as for September but less than half the actual of October, 1939. These forecasts indicated that total demand for gasoline would be 1,470,000 barrels, or 2.8 percent, greater in October, 1940, than in October, 1939.

They also indicated that the total demand for United States oils should be about the same in October of this year as in October of last year, despite sharply lower exports. For the estimates of gasoline demand in October, both domestic and foreign, are practically the same percentage above a year ago as were the actual requirements in July, latest month for which figures are available; and in that month, total demand for all oils was 0.4 percent above a year previously, with total domestic demand up 5.5 percent and total exports down 30 percent. Crude oil shipments in July were off 23 percent and exports of refined products in the aggregate were down 35 percent.

The Bureau of Mines has estimated that exports of crude oil will amount to 3,900,000 barrels in October, the same as the quantity forecast for September but 3,000,000 barrels less than the 6,947,000 barrels shipped out in October, 1939.

The trend of demand has been generally the same for the various refined products: relatively good in so far as domestic use is concerned, but unfavorable with respect to shipments abroad. The total demand for gasoline was up 2.7 percent in July, with domestic consumption 6.6 percent greater than in July, 1939, and with exports off 53 percent. Total demand for kerosene was the same as a year previously, with domestic use 14.8 percent greater but exports down 70.7 percent. Light fuel oils showed a net decrease of 4.8 percent, as an 8 percent gain in domestic use was outweighed by a 35.7 percent curtailment of exports. Heavy fuel oils were required in 2.4 percent larger quantity, as there were gains of 1.5 percent for domestic demand and 21.2 percent in exports. Total de-

[*Continued on page 40*]

Oil Exports Down 17 Percent in First 11 Months of War, and Off 30 Percent in July

ITEM	ELEVEN MONTHS PERIOD Ended July 31, 1939	Ended July 31, 1940	Percent Change	MONTH OF JULY 1939	1940	Percent Change
Crude Oil	65,095,000	55,877,000	— 14.2	7,304,000	5,607,000	— 23.3
Products:						
Motor fuel	44,155,000	28,147,000	— 36.2	3,585,000	[6]1,686,000	— 53.0
Aviation gasoline (included above)	[1]2,872,000	[2]3,035,000	+ 5.7	266,000	210,000	— 21.0
Kerosene	7,127,000	5,221,000	— 26.7	774,000	227,000	— 70.7
Gas oil and distillate	27,460,000	23,048,000	— 16.1	2,857,000	1,837,000	— 35.7
Residual fuel oil	16,851,000	14,453,000	— 14.5	1,144,000	1,387,000	+ 21.2
Lubricants	9,222,000	11,997,000	+ 30.1	1,022,000	741,000	— 27.5
Wax (pounds)	226,535,000	215,176,000	— 5.0	16,655,000	8,992,000	— 46.0
Coke (short tons)	223,000	235,000	+ 5.4	31,500	20,100	— 36.2
Asphalt (short tons)	44,900	[3]495,200	.....	3,000	25,000	.....
Miscellaneous oils	95,000	759,000	+ 700.0	8,000	72,000	+ 800.0
[4]Total Refined Products	106,101,000	86,417,000	— 18.6	9,622,000	6,219,000	— 35.4
Total Crude and Products	171,196,000	142,294,000	— 16.9	16,926,000	[5]11,826,000	— 30.1

[1] September, October, November, 1938, not included. [2] September, 1939, not included. [3] Beginning January, 1940, includes both manufactured and unmanufactured asphalt; only unmanufactured asphalt being previously shown. [4] Not the sum of the above figures, some of which do not indicate barrels. [5] Exclusive of 9,000 barrels exported from non-contiguous territories, but inclusive of 850,000 barrels shipped from U. S. territories. [6] Includes benzol, 1,000 barrels in July, 1940.

Changes From Year Ago in Stocks of Crude and Refined Oils in the United States

(Figures indicate barrels)

LATEST WEEKLY DATA

(Sources: Crude stocks, Bureau of Mines; all other figures American Petroleum Institute.)

STOCKS OF:	September 21, 1939	September 21, 1940	Percent Change
Gasoline	71,395,000	82,960,000	+16.2
Gas Oil & Distillate	37,984,000	47,163,000	+24.2
Residual Fuel Oil	114,588,000	108,191,000	— 5.6
Crude Oil	[1]233,016,000	[2]262,475,000	—12.6

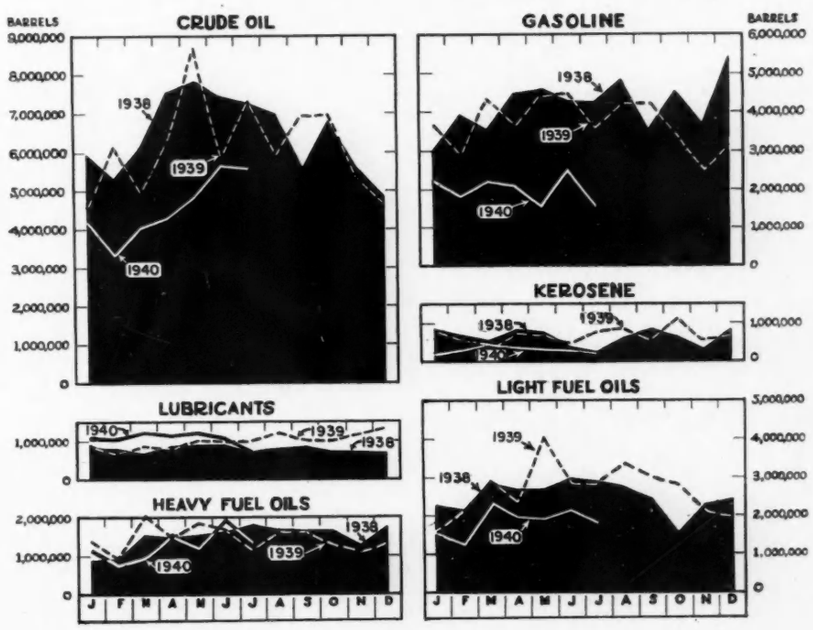
LATEST MONTHLY DATA

(Source: Bureau of Mines.)

ITEM	Stocks at End of July 1939	1940	Percent Change
SUMMARY—			
Crude Petroleum:			
Refinable in U.S.	270,570,000	263,498,000	— 2.6
Heavy in California	14,375,000	13,204,000	— 8.1
Natural Gasoline	7,123,000	7,584,000	+ 6.5
Refined Products	279,380,000	289,071,000	+ 3.5
Total, all oils	571,448,000	573,357,000	+ 0.3
Day's supply:			
July Basis	151	151	0.0
7 Months Basis	153	147	— 3.9
PRODUCTS—			
Gasoline:			
Finished	71,824,000	82,025,000	+14.2
Unfinished	6,019,000	7,040,000	+16.9
Total	77,843,000	89,065,000	+14.4
Aviation Gasoline (included above)	[3]	4,099,000	.....
Kerosene	8,855,000	8,191,000	— 7.5
[4]Gas Oil & Distillate Fuels	27,581,000	30,134,000	+ 9.3
[4]Residual Fuel Oils	96,305,000	86,255,000	—10.4
Lubricants	7,179,000	8,573,000	+19.4
Wax (pounds)	109,322,000	113,978,000	+ 4.3
Coke (short tons)	733,000	678,000	— 7.5
Asphalt (short tons)	596,000	623,000	+ 4.5
Road Oil	1,085,000	1,077,000	— 0.7
Miscellaneous	285,000	417,000	+46.3
Other Unfinished Oils	40,296,000	42,083,000	+ 4.4

[1] Stocks, September 16, 1939.
[2] Stocks, September 14, 1940.
[3] Not available.
[4] At refineries only.

U. S. Exports of Crude Petroleum and Refined Products



Source of Data: Bureau of Mines.

California Experiencing Lean Discovery Cycle

CALIFORNIA'S failure to discover a first-class oil field during the past 15 months, and therefore to add materially to its crude oil reserves, has operators of the state wondering if the discovery cycle commenced in 1936 has ended.

This is one of several special articles on California developments prepared by an associate editor of THE OIL WEEKLY following an extensive trip through California fields for the purpose of studying both economic and technical trends in that important oil-producing state.

NO major additions to California crude oil reserves have been made in more than a year, a decided downward turn from the three-year discovery cycle that gave the state several important oil fields and greatly accelerated development after the depression.

Full evaluation of recent field extensions and deep-zone discoveries has been difficult, but this type of development for the moment seems to hold as much promise as prospecting for new fields. A broader and more generous interpretation of both surface and subsurface data has been the chief driving force behind deep zone and extension discoveries.

Failure to find a first-class oil field during the past 15 months has not necessarily ended the latest discovery period, but it certainly reflects an increasing difficulty in the exploratory field. The 1929-1936 decline in California reserves was followed by the 1936-1939 discovery cycle, during which 8 or 10 good oil fields were found and several extensions added.

Major discovery periods in California have run in cycles for 35 years. A hysteria of exhaustion usually accompanies each lean discovery period, while a panic of overproduction enlivens the true discovery cycles. Both the reserve situation and future outlook changed quickly during the latter part of 1936 with two major discoveries, but it was hardly logical to expect a continuation of the 7-year period that failed to yield a single major oil field. For three years new fields appeared at the rate of 3 or 4 per year, but a distinct drying up of discoveries since early 1939 has been conspicuous.

When the state has been faced with an actual shortage of flowing reserves, necessity has filled the void and needed discoveries have followed. Considerable uneasiness was evidenced in 1920, 1928 and 1935, but following each lean period a discovery cycle added adequately to diminishing reserves. Oil fields discovered between the middle of 1936 and the middle of 1939 probably represent a greater combined reserve than that credited to Kettleman Hills. The 3-year cycle revealed California as a reserve of increasing rather than diminishing importance, although the most recent 15-month lull must be considered.

San Joaquin Valley

The chief exploratory interest still centers in the San Joaquin Valley, a vast, flat area 175 miles long and 50 miles wide. This promising semi-tested and untested district includes upward of 5,000,000 acres. The valley bed is almost as flat as the Texas-Louisiana Gulf Coast, with surface contrasts along the fringes.

The San Joaquin Valley as a whole is perhaps 25 to 30 percent tested from an acreage standpoint, but from a possibility standpoint it is nearer 50 percent tested. Obviously the more promising areas have been drilled, particularly along the valley edges and in the vicinity of producing fields.

Trend plays may develop from future discoveries in districts now held doubtful, however, and large blocks currently regarded as second- or third-class propects may develop into active wildcatting areas.

New depths, trends and interpretations will place changing values on all parts of the valley. Several areas that have been from 25 to 50 percent tested at shallow and intermediate levels have not been tested at all at the maximum depths at which production is possible. Thus it might be possible, theoretically, to test certain sections up to 100 precent at 9000-foot levels, only to follow with an important oil discovery at 12,000 feet. In such a case, the 12,000-foot level would come to the front as a promising 100 percent untested reserve. This very situation has developed at least twice in the bed of the San Joaquin Valley, where discoveries or bolder interpretations have changed geological views.

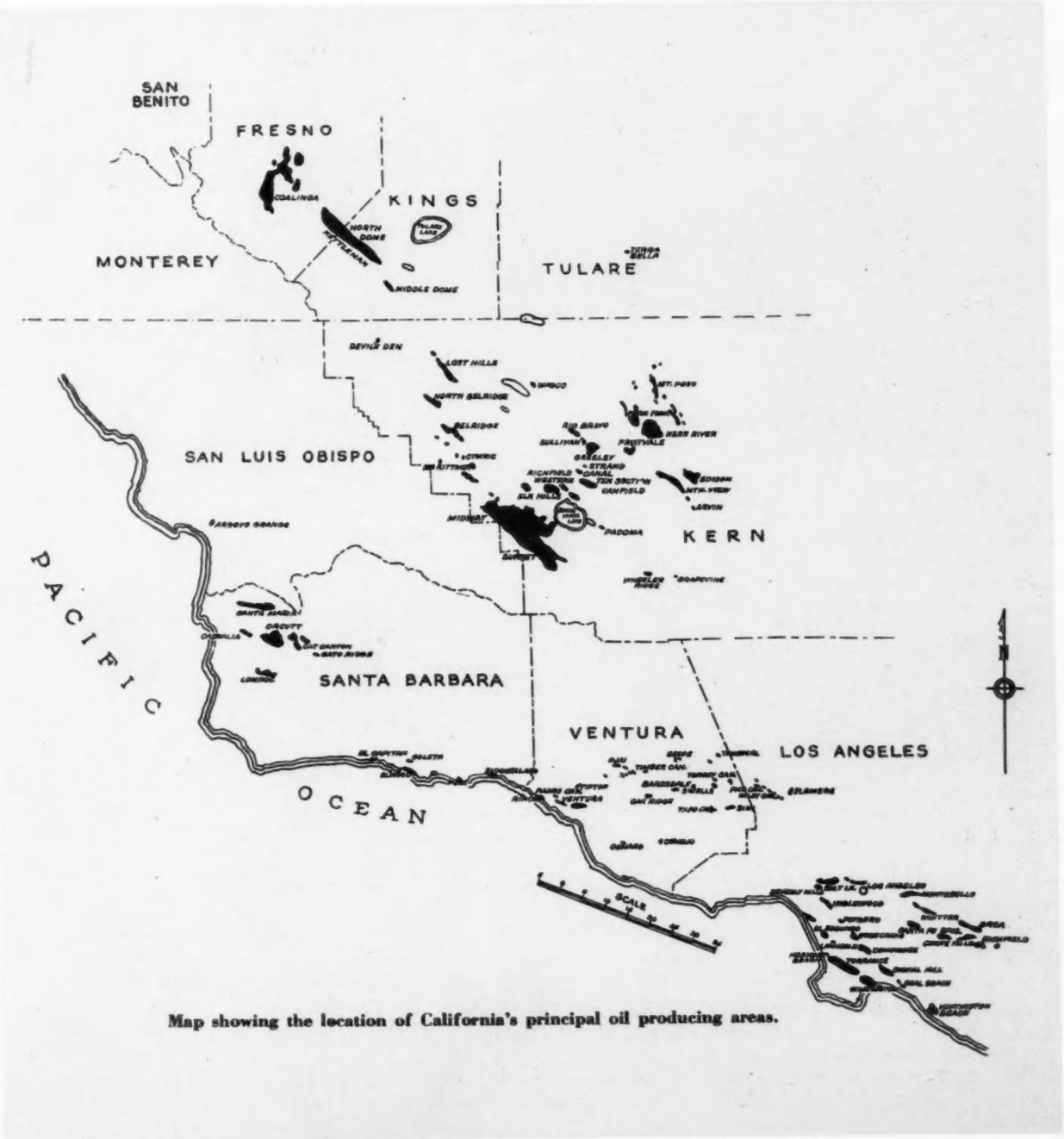
The first 8000-foot discovery near Bakersfield was followed by a series of similar or deeper discoveries. The testing of many of the most promising geophysical prospects during the 3-year discovery cycle left the more doubtful ones untested. Failure to discover a new field of the first magnitude during the past 15 months has been at least a partial result of early elimination of the better prospects.

It is known that favorable sediments extend to depths greater than 15,000 feet near several productive parts of the San Joaquin Valley. Actual production below 13,000 feet in an area (Wasco) that does not carry the greatest thickness of favorable formations virtually assures deeper tests than have been drilled in several parts

of the southern end of the valley.

Maximum thickness of the Pliocene-Miocene formations is near the south end of the San Joaquin Valley, depth to the Eocene probably being greater than 18,000 feet. The younger formations thin northward above 8000 feet at Coalinga, around 10,000 feet at Kettleman Hills, and probably at 18,000 feet south of Bakersfield. The San Joaquin Valley is filled with sediments favorable to oil production and many discoveries will be added.

companies learned to interpret the shooting data. Close shooting lines and more numerous shooting points paved the way for an effective mapping program. Absence of good reflecting beds at nominal depths has been overcome by use



Map showing the location of California's principal oil producing areas.

until they become of negligible thickness in the Sacramento Valley, but major oil discoveries may be expected in districts carrying less than half the maximum thickness of Pliocene-Miocene formations. The Eocene is encountered

Geophysics has been the chief means in establishing a new valuation on the San Joaquin Valley. This method of exploration was far from successful at first, and the reflection seismograph was on the verge of discard before operating

of very deep formations as markers. Two companies that 5 years ago regarded the reflection seismograph as a useless instrument in California now are its most ardent admirers.

The first shooting was done in

straight lines across a given area, but the distance between shooting lines was too great. It has not been possible in the San Joaquin Valley to shoot in such wide lines as are used along the Gulf Coast. The original shooting lines are drawn to overlap the reflections and give a full picture of the area.

About 20 structures were found and mapped in less than 3 years of geophysical activity in the San Joaquin Valley. Seven of the first 9 drilled yielded oil or gas, a record that greatly surpassed the former activity over any period of similar length. The recent wildcatting record has not been so impressive, however, and the effect of increased drilling on second-rate structures has been reflected by the recent stalemate in discoveries.

An analysis of the dry-hole record in the valley does not condemn the area as a future wildcatting district. Abandonments might be placed roughly in two groups of wells that were primarily testing certain formations producing nearby. What the valley actually needs now is a new type of oil discovery that might set off another series of important discoveries. Such a discovery could be at a new depth in a given area or in a new formation.

Exploration has centered in Kern County, a portion of the valley already heavily tested at shallow and intermediate depths. Wildcatting has been expanded to Tulare, Kings and Fresno counties as the result of deep discoveries in Kern County. Several promising portions of Tulare and Kings counties remain untested. The thinning tendency of the formations northward has discouraged extensive wildcatting northwest of Hanford and Fresno. The influence of the East Coalinga discovery has been noticed, but the expense of venturing out in the valley to the north has been a barrier.

Cost of Blocks High

The cost of blocking a large acreage near producing fields has become high enough to discourage drilling among the smaller operators, and among the larger companies as well where the geophysical picture is not fairly convincing. Joint efforts of two or three operators have been conspicuous in wildcat plays involving the deeper formations, apparently a trend toward reduction of exploration costs where the element of doubt was prominent. Two good fields were discovered early in 1939 following partnership deals of this kind. It developed that the companies suggesting that they be taken in as partners had more confidence in the geophysical pictures than the operators who first assembled the acreage. A company that had spent more than a million dollars wildcatting in the upper part of the valley accepted a partnership deal in the south end of the valley in 1939, only to discover a good oil field on the block it originally controlled and meant to drill alone.

Development in valleys and basins in California has been alike in every major producing district that yields both fringe and valley-bed production. Fields were first found along the valley or basin edges, where surface contrasts were sharp. In both the San Joaquin Valley and the Los Angeles Basin, operators were slow to venture out from the edges. Many of the greatest fields ultimately were found in valleys or basins that originally were regarded as doubtful producing districts.

A major oil discovery is overdue in the Los Angeles Basin. Prior to the discovery of the Wilmington field, this basin was regarded as 90 percent prospected. The Los Angeles Basin proper, a flat strip of land 15 miles wide and 30 miles long, still remains open to a type of prospecting that may set a new value on the area as an oil reserve. Geophysical work has not been very satisfactory in parts of the basin, but producing formations not now indicated may be encountered in the flat sections. Most of the abandonments have been stopped short of conclusive depths. The Wilmington, Playa del Rey and Seal Beach fields reveal the possibilities of areas showing limited surface contrasts in the basin. This valley or basin has been alternately condemned and prospected over a 20-year period, but following each doubtful cycle a surprising discovery has appeared to place a new valuation on the entire area.

Los Angeles Basin

The Los Angeles Basin has produced more than 2,600,000,000 barrels of oil. Its present known reserve is only a fraction of past production. The older basin fields are declining steadily, and it is obvious that additional reserves will be needed to maintain the district's position. Such fields as Playa del Rey and Wilmington were wedged in limited areas, and intensive

California Estimated Oil Reserves By Fields

	Production to 8-1-40	Estimated Reserves, 8-1-40	Proved Acreage, 1-1-40
San Joaquin Valley Fields:			
Arvin	919,050	2,050,000	300
Belridge North	38,719,788	47,280,000	1,837
Belridge South	22,018,861	8,819,000	1,600
Canal	3,959,891	17,037,000	800
Canfield Ranch (Inc. with Ten Sec.)	.....	.....	.....
Coalinga East	367,395,157	176,000,000	14,800
Coalinga West			
Coalinga Eocene	.....	.....	2,400
Coles Levee	1,065,741	65,000,000	3,750
Edison	6,960,251	7,869,000	1,250
Elk Hills	152,408,722	147,543,000	7,860
Fruitvale	21,530,070	16,201,000	1,730
Greeley	3,269,604	26,730,000	1,900
Kern River	320,736,036	27,284,000	12,800
Kettleman M.D.	533,556	1,467,000	200
Kettleman N.D.	231,687,511	675,000,000	15,887
Lost Hills	49,543,561	11,713,000	2,450
McKittrick	90,437,282	9,580,000	1,565
Midway-Sunset	887,676,067	193,344,000	37,900
Mt. View	36,315,067	23,887,000	1,800
Mount Poso	48,940,667	38,000,000	2,210
Paloma	76,902	6,000,000	400
Rio Bravo	6,704,076	64,000,000	1,900
Round Mountain	26,897,271	22,743,000	1,660
Strand	441,304	6,693,000	400
Ten Section (Incl. Canfield Ranch)	8,774,525	81,000,000	2,300
Tupman	555,269	945,000	120
Wasco	836,538	5,000,000	380
Wheeler Ridge	3,769,487	727,000	285
Total	2,332,172,254	1,681,912,000	120,484
Coastal Fields:			
Capitan	4,651,211	7,347,000	310
Elwood	66,756,322	14,213,000	400
Padre Canyon	934,630	1,840,000	120
Rincon	11,828,994	7,137,000	380
San Miguelito	4,068,191	15,839,000	320
Santa Barbara	3,257,985	1,148,000	102
Santa Maria Dist. (Incl. Santa Maria Valley)	154,902,500	71,412,000	14,000
Summerland	3,151,028	119,000	40
Ventura Ave	220,667,927	146,000,000	1,840
Ventura-New Hall	63,625,484	31,445,000	5,200
Watsonville	1,176,139	64,000	60
Total	535,020,409	296,564,000	22,772
Los Angeles Basin Fields:			
Alamitos (Inc. with Seal Beach)	.....	.....	110
Brea-Olinda	165,056,417	25,000,000	1,906
Coyote—East	80,517,421	9,411,000	1,074
Coyote—West	82,256,582	47,727,000	984
Domingues	118,485,953	66,435,000	1,054
El Segundo	9,366,004	7,670,000	930
Huntington Beach	286,494,755	63,164,000	2,210
Inglewood	119,087,512	40,806,000	833
Lawndale	565,275	133,000	72
Long Beach	643,026,742	125,000,000	1,600
Los Angeles-Salt Lake	65,785,172	1,597,000	400
Montebello	119,899,283	16,819,000	773
Playa del Ray	45,919,168	10,581,000	600
Potrero	3,260,269	3,739,000	80
Richfield	91,021,547	15,000,000	1,202
Rosecrans	42,823,935	30,103,000	762
Santa Fe Springs	463,177,823	66,790,000	1,030
Seal Beach	86,404,496	20,551,000	510
Torrance	99,699,007	19,986,000	4,060
Whittier	18,205,031	3,049,000	540
Wilmington	97,066,840	190,000,000	4,600
Total	2,638,119,232	763,561,000	25,380
Grand Total	5,505,311,895	2,742,037,000	.....

drilling may disclose similar or different oil accumulations in untested pockets or at greater depths in the partially tested areas. Difficultv in interpreting geophysical data in the flat area north and east of Seal Beach has discouraged drilling in a district of considerable promise. Commercial production has not been developed in the true flat belt of the basin, unless Santa Fe Springs is considered as such.

The Santa Maria Valley still remains an important oil reserve, but lack of discoveries has been conspicuous since the heavy development of three vears ago. This area yields a heavier crude than is most desired by the average refinery, but the oil is good for fuel and asphalt. Production is comparativelv shallow, and such deep production as is found in the San Joaquin Valley and Los Angeles Basin probably will not be developed.

Sacramento Valley Still Regarded

The Sacramento Valley still is regarded bv many as a potential oil reserve of importance but development has been limited to tests that for the greater part stopped short of conclusive depths. The Sacramento and San Joaquin valleys are somewhat similar in surface appearance and from the standpoint of elevation, but formations below the surface differ greatly, except for a fairlv uniform laver of Eocene common to both valleys. The Pliocene-Miocene formations, so prominent in the San Joaquin Valley, thin northward and become negligible in the Sacramento Vallev. The greatest thickness of the Cretaceous is near Sacramento, as much as 30,000 feet of this horizon is believed present. Thickness of the Cretaceous is so great in parts of the vallev that it has been impossible to reach the most promising levels of the horizon. Gas was developed in the first representative tests, and the Cretaceous is held far from hopeless by many geologists.

The thickest known Pliocene sediments are found near the Ventura Avenue field, but few important discoveries have been made in recent years. The law of averages or compensation seems to have been working overtime, since only the Ventura Avenue field has assumed true major proportions in the immediate area. This field, however, has been one of the state's great reserves. Small valleys between Ventura and Los Angeles should prove productive at new depths, since the district is the oldest producing area in California. Such immediate areas as the Oxnard Plain and small basins near Saugus hold promise as potential oil reserves. The mountainous country nearby has been worked for 40 years by prominent geologists, and canyons offer evidences of oil accumulations over a wide area. Faulting in this district offers serious complications.

Extensions and Deeper Zones

Extensions and deep-zone discoveries near and in the older fields still hold an important position in California's potential reserve situation. Recent discoveries at Coalinga, Montebello and Rosecrans reflect unexpected trends that have been common to California development for 20 years, and substantial production of oil from new deep zones in settled fields should be expected.

The new Eocene production developed on a nose or extension east of the old Coalinga field emphasizes the possibilities of additional deep or extension discoveries in many fields. A more generous and more exact interpretation of subsurface geology is needed to bring about deep or extension tests in shallow and intermediate depth fields of major ranking.

The discovery of each deeper producing zone in major fields during the past 10 years has been equivalent, or nearly so, to the discovery of a new field. As a rule the intermediate depth zones have been most productive, but the deeper zones often underlie maximum-productive acreage. The very deep zones are tighter and more closely cemented than the shallower zones, a condition that will tend to reduce the chances of a flood of oil as depths increase.

Eaton pointed out two years ago that in no major field had any full horizon present above the basement complex failed to be productive when fully tested through its entire thickness, a record indicating that the basement complex was the limit of hope in at least a majority of the large fields.

Development of a series of producing zones in such fields as Long Beach and Santa Fe Springs has made possible a high per-acre recovery in comparatively small areas that in the Long Beach field having been a record for the United States. The net thickness of a blanket of oil produced by the Long Beach field is far greater than the average thickness of the producing zone in the East Texas field, or enough to fill a tank the size of the Long Beach field to a depth of 55 feet.

Oil-bearing formations probably will be found to a depth of more than 20,000 feet at Ventura Avenue, the Miocene not having been tested here. The field produces from a series of Pliocene zones, but deeper production is possible.

Economics has entered more strongly than ever before into the wildcatting program. Small well allowables in flush fields represent a barrier that can not be passed off lightly. Drilling and producing an 11,000-foot well with a 165-barrel daily allowable does not bring the quick profit that formerly followed completion of large flowing wells.

The cost of blocking a 2000-acre tract and drilling a well to 10,000 feet has become an expensive operation in California. Where 3 wildcat projects of this kind are required to make a single discovery, the successful venture must, in a way, carry the cost of the two unsuccessful efforts. It has not been unusual for a single company to drill 3 or 4 wildcat wells as consecutive failures, experiences that have only reduced the profit of ultimately successful ventures.

Where discovery wells were allowed to flow at high rates for the first year or two, discovery costs were largely liquidated in short order and each well subsequently stood on its own merits. Under the present proration schedule, several years may be required to obtain the full return on the discovery cost. New fields of the future must be produced within certain allowables, and certainly these schedules will permit only a fraction of the production that was obtained during the first 2 years in new fields of 10 and 20 years ago.

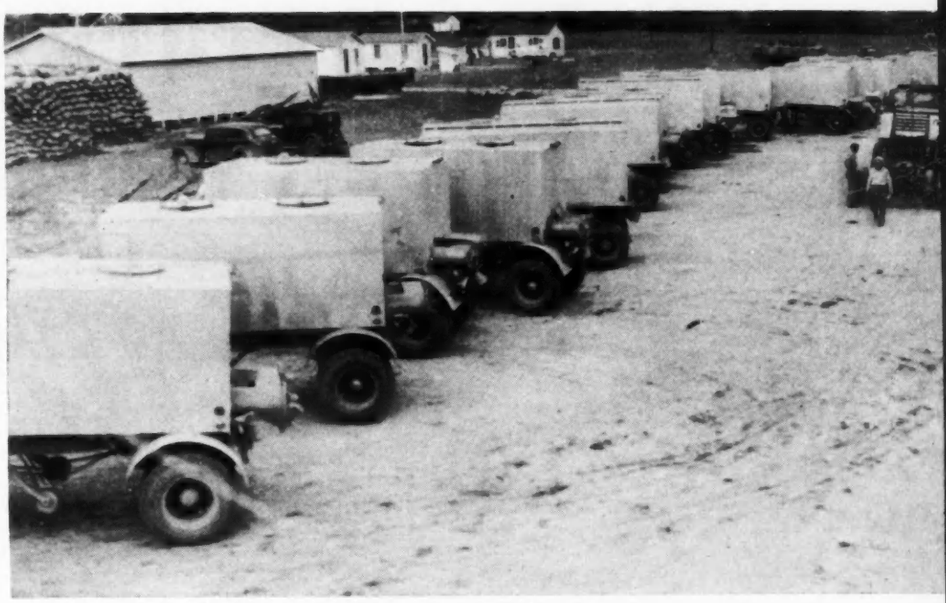
California reserves have been maintained since 1920 by continuous and very expensive wildcatting efforts. About 3100 dry holes have been drilled since 1920, and 1 oil or gas field has been found for each 53 dry holes drilled. The cost of finding each field has been more than $5,000,000, but the average value of all fields found during the period has been several times the discovery cost. The greatest additions of reserves have roughly paralleled or closely followed the most active geological and drilling periods.

Bulk Type Oil-Well Cement for Illinois

CEMENT for cementation of oil field casing strings is being handled in bulk form in Illinois and California fields. The handling, storing and transporting of bulk cement, representing a departure from the heretofore usual paper bag container, has several interesting angles; partly because of its recent introduction and in part due to innovations in handling the cement at both storage and well sites. Presented here is a pictorial story of the highlights of such operations.

Several advantages are claimed for the method. Spoilage of the cement by weather during the period it formerly was stacked in sacks on the ground at the well location is eliminated, as is wastage due to breakage of sacks and spillage while mixing the slurry. It also is said that bulk cementing provides more uniform and faster rate of feeding into the mixer, and that it is fresher and uncaked. In California, the equivalent of 1500 sacks of cement were mixed in 31½ minutes. The type and brand of cement is specified by the customer.

1. BULK CEMENT STORAGE STATION. Mills producing bulk type oil well cement simply place it in box cars without sacking. Upon arrival at destination, the cars are spotted on an unloading switch alongside a bulk storage station. The cement is removed from the cars with compressed air and special unloading tools. The unloading device consists of a compressed air operated portable gathering scoop and worm driven conveyor to blow the cement into the raised steel bins or tanks, where it is kept protected from the weather until needed. Field convoy units are run beneath the hopper to take on their load as shown at left. Cement is dumped direct from storage hoppers into convoys through water-tight man-holes in the roof of trailer tanks. Use of waterproof units permits cement to be transported to well ahead of actual need without danger of getting wet. Original bulk cement storage stations, made at Salem, Illinois, contrasted with the newer type one shown here in that the cement was stored in steel tanks on the ground and then moved to raised hopper when desired to load a field convoy. The newer design eliminates one moving operation. The individual bins hold cement manufactured by different firms.



2. FIELD CONVOY UNITS. Transportation means from the loading hopper to the well consists of large steel tanks built on trailer chassis. Lower section of cement tanks is built with double hopper effect, so cement will pass readily into rotary conveyors to outlets at rear of unit. A small gasoline engine, mounted on the front of trailer, is connected to the unloading mechanism with a double clutch device so either or both unloading screws may be used singularly or simultaneously as desired. Installation of small engine also eliminates the requirement of having other motive power at well during cementing operations. A single tail gate unloading spout is located at the rear beneath the conveyor outlets, so cement can be moved directly to slurry mixing hoppers at well.

Cementing Introduced in and California

3. CEMENTING OPERATIONS AT WELL. The cement convoys are wheeled into position so that the mixing hopper can be shifted readily from one trailer to another. All connections between water supply tank, mixing truck pumps and hopper, as well as additive machine, are made as usual. Contents being dumped from sack in photograph is bentonitic clay, added to cement for purpose of sealing off porous formation found above Devonian lime in Illinois to prevent thieving of slurry.

Retail Prices Belie Trust Charges

FOR several years the oil industry has been subjected to special accusations and suspicion. Agents of the federal government have conducted an unremitting campaign of prosecutions, charging monopolistic practices in the industry. And these suits necessarily have caused the public to doubt the honesty of the oil companies.

Indeed, the series of anti-trust suits, climaxed by a new proposal that disintegration be sought, has caused even friends of the industry to wonder what real foundation there has been, if any, for such persistent hounding.

Just what has the oil industry been doing that has not been strictly ethical, fair, and honorable?

Has the industry really been gouging its customers, just a little, if not shamefully?

Have the officials of large and small oil companies really gotten together surreptitiously and worked out schemes for obtaining artificially high prices for their products?

Or have the oil companies, perhaps without design, brought about conditions in the industry that have caused the consumer to pay more than fair and reasonable prices for petroleum products?

In particular, has there been unfair and unreasonable pricing of petroleum products because of the established setup of the industry, under which exploration, production, transportation, refining, and marketing are carried out as a coordinated effort? And should this established setup be changed, as sought in the suit planned, which proposes divorcement of pipe-line and marketing operations from the other services of the industry?

These are the fundamental questions brought up by the anti-trust suits. For the suits are, or should be, simply litigation calculated to guarantee the purchaser of oil products a square deal.

THE answers are found most readily not in the millions of words of inconclusive and conflicting argument and testimony that have been offered in the several anti-trust suits, but in the simple facts and figures on prices of petroleum products.

As shown on the accompanying chart, the industry, as now constituted, has been delivering its principal product, gasoline, to the consumer, for prices always moderate in relation to the prices of other commodities.

(The total price paid at the service station has been influenced adversely by the creeping upward of taxes on gasoline. But the increasing of the taxes has not been the responsibility of the oil industry.)

Most deviations of gasoline prices from the general trend of commodity prices have been, in fact, in the consumer's favor.

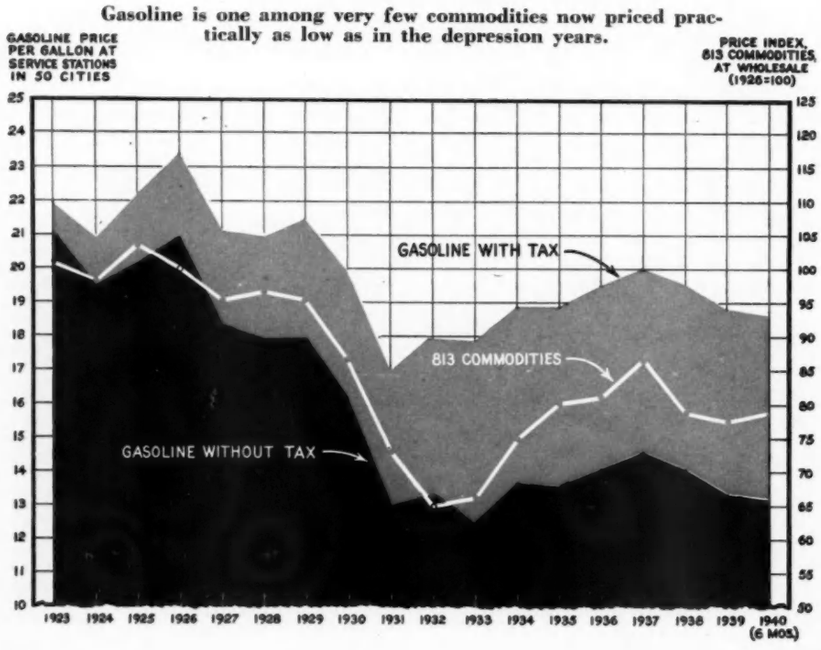
After the depression, for example, gasoline prices were not increased as sharply as were the prices of other commodities.

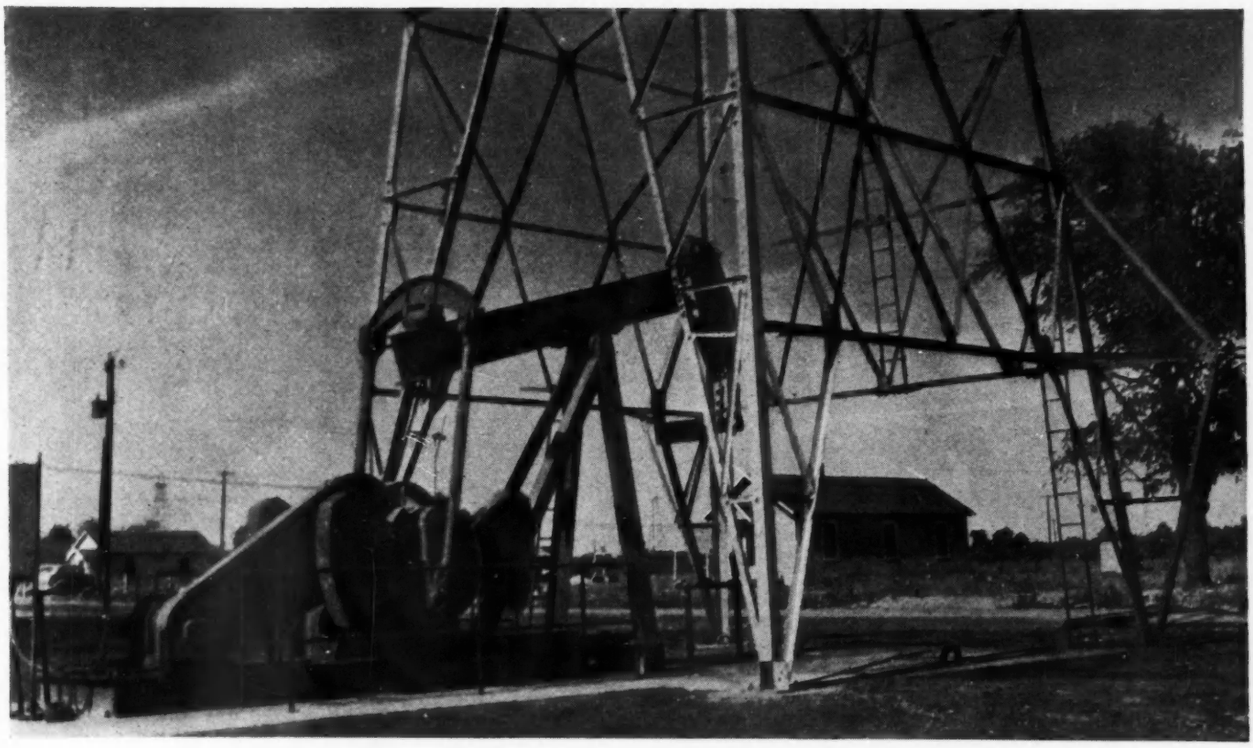
And today, when the industry stands charged once again with monopolistic practice, it is furnishing the public with gasoline for prices practically as low as those that prevailed in the depression years.

Few other commodities can be bought now for the prices at which they sold in 1931, 1932, and 1933.

Service Station Prices of Gasoline (Excluding Taxes) Have Been Held Down Relatively Lower Than Prices of Other Commodities

Gasoline is one among very few commodities now priced practically as low as in the depression years.


GASOLINE PRICE PER GALLON AT SERVICE STATIONS IN 50 CITIES
PRICE INDEX, 813 COMMODITIES AT WHOLESALE (1926=100)
GASOLINE WITH TAX
813 COMMODITIES
GASOLINE WITHOUT TAX
1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 (6 MOS.)



Completed pumping unit on Devonian well in Salem pool with guard rail, concrete pad around casinghead and pumping unit, and hold-down loops to anchor pulling machine when cleaning out.

Neat Pumping Setup Anticipates Future Servicing

FOR future lifting operation of Illinois Devonian-lime wells, one oil company has standardized on a particular type of pumping setup that is very neat and sturdy. A steel based pumping unit is set on a concrete derrick floor with an elevation flush with the ground level. All flow lines are recessed into this concrete flooring, and an open concrete-lined cellar provides space for well-head connections and is covered with an easily removable, close-fitting metal grating. Hold-down loops for well pulling and cleanout tools are installed, and are the only obstacles with the exception of the Christmas tree and pumping unit that rises above the floor of the derrick.

As a majority of these wells respond to agitation, flowing through both the tubing and the casing, connections are made below the ground surface to the casing outlet with the flow line rising to a point just below the level of the surrounding ground. The tubing lead line is attached to a nipple of tubing above the casinghead, to the top of which is attached the tubing tee and polish rod stuffing box having a packing gland adjusted with hand bars on each side. The lead line is made up of two convenient lengths of pipe having a ground joint union, and dropping a short distance to connect with the flow line from the casinghead, both using a common line leading to the oil and gas separators at the flow tank battery.

The surface of the ground inside the piers of the derrick is leveled and excavated to a depth ranging from 6 to 10 inches, with a form made in the floor plan to provide a trench through which the lead line passes beneath a cover of steel which is placed over the trench when the setting has been completed. Recesses are left on some wells with forms set when the concrete is poured, and chipped from others after the cement has set to receive the ends of 3-inch sills laid across lengthwise above the cellar, and on each side of the tubing to support the two-piece steel floor which covers the cellar opening.

Derrick Pier Flush With Ground

Forms of wood are cut to fit snugly against the concrete derrick piers, which are almost flush with the ground level, instead of

Cellar poured, concrete pad around well laid and supporting pipes for no-slip floor plate grating around casinghead.

elevated as in most fields where derricks are left over the deep wells. The surface of the soil within the four corners of the derrick and on each side and at the end of the pumping unit foundation block is cleared and leveled off to form a smooth surface for the concrete floor. At one corner of the derrick a heavy loop is set in the ground attached to a dead-man, to be used to dead-end a derrick cable when cleaning out or otherwise working over the well. On the most convenient side of the derrick, a second heavy loop is set in the ground, supported above the wooden forms with a joint of pipe to hold it high enough so that, when the concrete is poured, the bail of the loop will have sufficient clearance for hooking in a sheave or snatch block, or anchoring down the pulling machine when driven to the well for a workover.

Pipe nipples are inserted in the ground on both sides of the pumping unit block and at the end for setting safety guards to prevent men or animals from being injured by the crank and counterweights of the unit while in operation. The guards are made in sections so they easily may be removed when it becomes necessary to make adjustments on the unit or transmission assembly. The concrete around the unit, motor and transmission is flush with the ground so that men working around the well will not stumble over a projection.

The work of fitting the wells with the concrete pads, walks and cellars is accomplished with several crews. One crew cleans up the area around the well and gets it in condition for the form builders. The concrete men pour the mix into the forms and level it down. This is followed by a skilled concrete man who floats the surface of the floor to obtain a fine-grained finish that will not absorb water and which resists the penetration of oil.

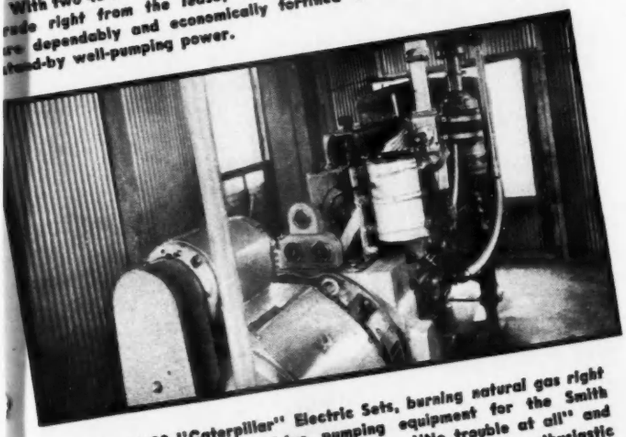
After the concrete floor and cellar have cured, steel workers finish the floor by cutting non-skid steel floor plate to fit the openings in the floor. A long narrow piece is cut to fit the trench opening through which the lead line passes and two sections are prepared to cover the cellar, with the joint at right angles to the sills upon which the steel is laid. Slots for handling the steel are cut in the sections so they may be removed without difficulty when work is necessary below the surface.

Completed floor with steel floor plate cut to fit closely around casinghead and tubing, with hold-down loops imbedded at corner of derrick and at side of floor for snubbing cleanout tools.

POWER FOR PRODUCERS

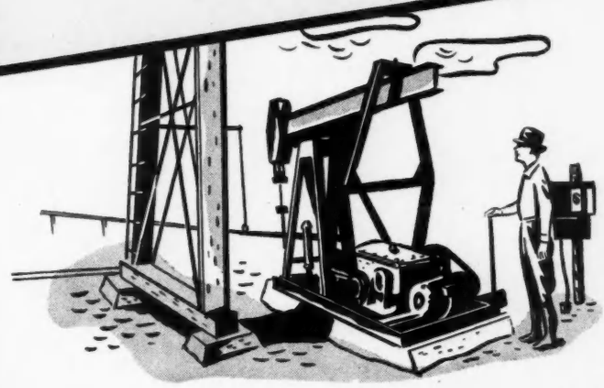
WITH FUEL RIGHT FROM THE LEASE

With two 46-30 "Caterpillar" Diesel-Electric Sets, burning cleaned crude right from the lease, Allen & Lewis, of Climax, Kansas, are dependably and economically fortified with both regular and stand-by well-pumping power.



• Two 46-30 "Caterpillar" Electric Sets, burning natural gas right from the lease, motor-drive pumping equipment for the Smith Petroleum Co., Grand Rapids, Michigan. "No trouble at all" and "a great saving over other power," are among the enthusiastic owner-reports on the 24-hour performance of these units.

• An example of another way "Caterpillar" Diesel Power can be used is the "Caterpillar" Diesel D8800 Engine, V-belted to electric generator, motor-driving the pumping equipment for 11 wells on Rosenthal & Carter-Washburn lease, near St. James, Illinois. Burns cleaned crude oil direct from the lease and runs 24 hours a day. Replacing 11 gasoline engines and consuming only 2 gallons of fuel per hour, the economy and simplified operation of this unit are obvious.



Pump electrically with "Caterpillar" Electric Sets which can use cleaned crude oil or natural gas right from the lease—or low-grade Diesel fuels. There, in a nutshell, you have the key to greater economy, greater convenience, greater dependability for 24-hour-a-day power—and for *greater profit!*

Not only are these modern, ruggedly built power-plants simple, compact, easy to install —and adaptable to various fuels. . . . But they are completely self-regulating—assuring steady voltage and far better electric-motor starting performance than can be obtained with independently regulated sets. (No switchboard or other external control apparatus!) "Caterpillar" Electric Sets are available in a wide range of practical sizes for well-pumping.

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MOST COMPLETE ENGINE SERVICE AND REPLACEMENT-PARTS FACILITIES IN THE OIL FIELDS

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DIESEL ENGINES AND ELECTRIC SETS • TRACK-TYPE TRACTORS • ROAD MACHINERY

Cellar poured, concrete pad around well laid and supporting pipes for no-slip floor plate grating around casinghead.

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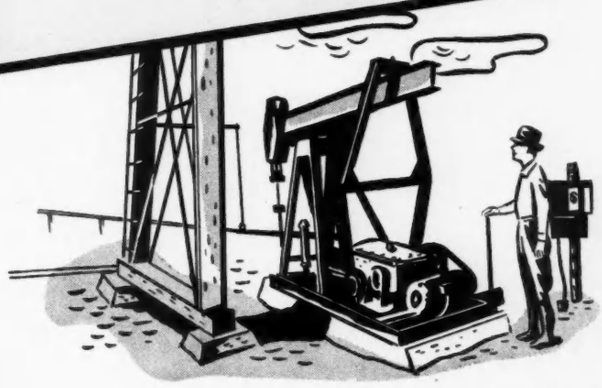
• Two 46-30 "Caterpillar" Electric Sets, burning natural gas right from the lease, motor-drive pumping equipment for the Smith Petroleum Co., Grand Rapids, Michigan. "No trouble at all" and "a great saving over other power," are among the enthusiastic owner-reports on the 24-hour performance of these units.

• An example of another way "Caterpillar" Diesel Power can be used is the "Caterpillar" Diesel D8800 Engine, V-belted to electric generator, motor-driving the pumping equipment for 11 wells on Rosenthal & Carter-Washburn lease, near St. James, Illinois. Burns cleaned crude oil direct from the lease and runs 24 hours a day. Replacing 11 gasoline engines and consuming only 2 gallons of fuel per hour, the economy and simplified operation of this unit are obvious.



Pump electrically with "Caterpillar" Electric Sets which can use cleaned crude oil or natural gas right from the lease—or low-grade Diesel fuels. There, in a nutshell, you have the key to greater economy, greater convenience, greater dependability for 24-hour-a-day power—and for *greater profit!*

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Growing Potential, Reduced Exports, Worry California

AN upswing in the production trend in California in the early weeks of September, despite a substantial cut in the state's quota ordered effective at the start of the month, is injecting considerable uncertainty into the West Coast production picture.

In addition to mounting production figures, upset conditions prevailing in the offshore market to the Far East and continuing uncertainties in the retail price structure on gasoline in the important Los Angeles marketing area provide additional factors contributing to an obscured forward outlook.

As a preliminary step in preparation for possible disruption of offshore business to Japan, the Conservation Committee of California Oil Producers set the state's production quota for September at 571,000 barrels daily, a reduction of 16,000 barrels daily from the August quota. In the face of this reduction, however, actual output as reported in daily statements issued by the Oil Administrator in the first two weeks of September reflects an increase of roughly 5000 barrels daily over the corresponding August period, the daily average approximating 635,000 barrels.

When compared with established quotas for the two periods, California's output in the first half of September has been running upwards of 65,000 barrels daily in excess of quotas; whereas in August the excess was on the order of about 45,000 barrels daily. Expressed in percentages, the September level of output has been running more than 11 percent above the established quota, as contrasted with less than 8 percent excess output in the early weeks of August.

For the first time since the reorganization of California's voluntary proration system under a uniform formula in July, 1939, pyramiding excess production figures give indication that the state is heading for another of its periodic turning points where its curtailment machinery must be overhauled to iron out inequities in the producing field and make adjustments for changed marketing conditions.

Most obvious of the problems occupying the attention of curtailment authorities presently is the status of California's offshore markets in Japan. While the licensing provision advanced by presidential executive order on July 26 brought about serious uncertainty for several weeks, this uncertainty was finally mitigated by the easing of licensing requirements through relative liberality in interpreting the provision of the executive order by the state department. At most, the licensing ban does not affect more than 5 percent of exportable oils at the present time. Had the first fears aroused by the export license restrictions been realized, it is quite likely that those in charge of conservation allowables in California would have felt it necessary to make a 50,000- or 60,000-barrel daily reduction in the average output objective for September, instead of the 16,000-barrel reduction which, indeed, was in part a seasonal adjustment.

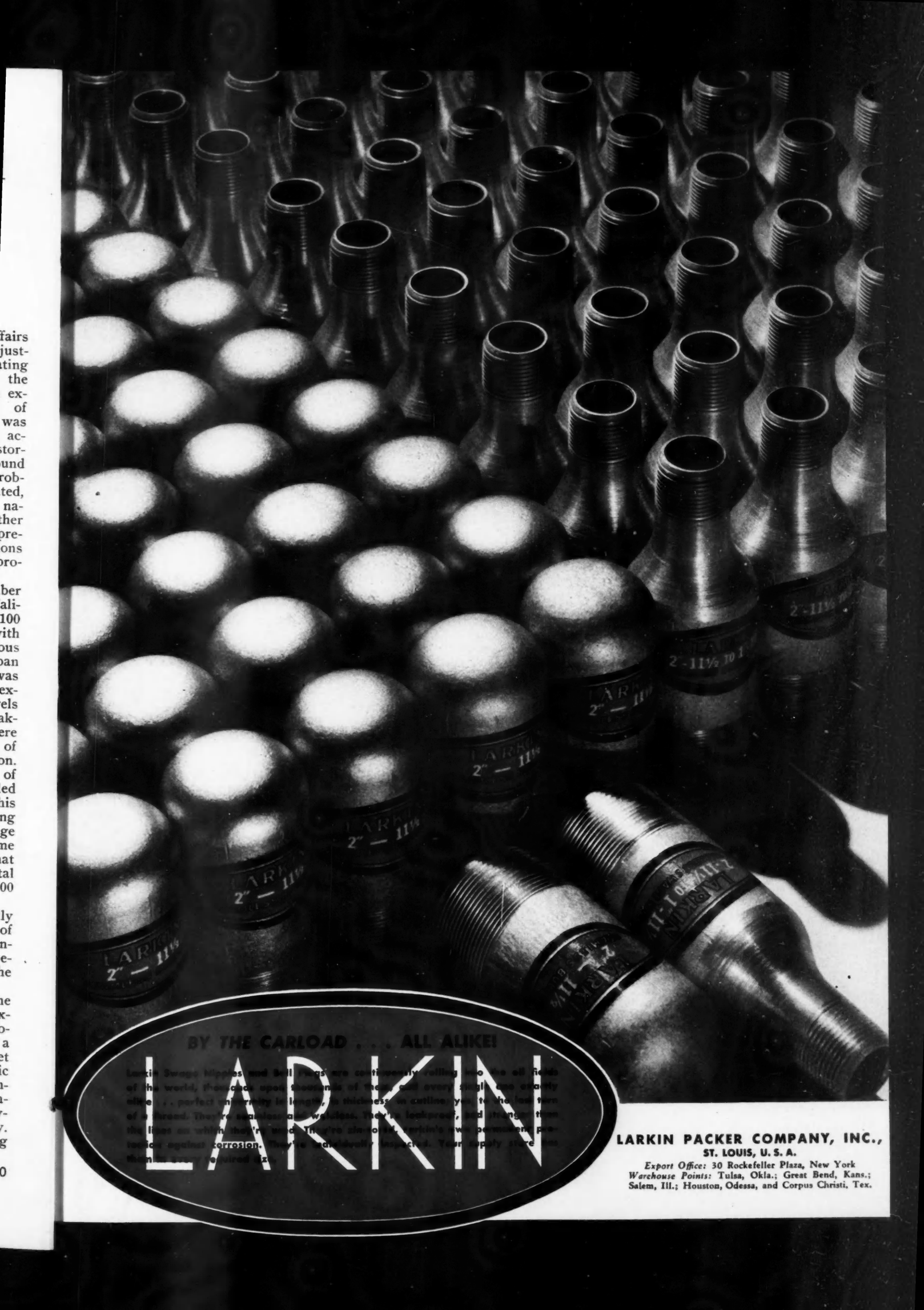
Some reaction from the period of serious uncertainty which ran from July 26, through the third week in August, almost halting contract crude oil exports, still remains however. This has been due in part to violent adjustment in export terminal stocks. When the export license order was issued, Japanese tankers in or near American waters were ordered, not to waste time, to take on cargoes of fuel, diesel or other oils to which export restrictions obviously did not apply. As California refiners had been supplying terminals almost to capacity with contract oils, much of which fell under export uncertainty, rather severe terminal problems immediately resulted. Some of these have not yet been wholly cleared although resumption of movement of a good deal of contract oil that was temporarily held up, has been resumed.

Another result of the licensing restrictions on internal oil affairs in California, apparently, is adjustment of refinery schedules relating to aviation gasoline. During the first half this year, even with export unimpeded, production of aviation gasoline in the state was about 14 percent greater than actual demand, with consequent storage additions estimated at around 140,000 barrels. It now seems probable that with exports eliminated, it may be some time before national defense training and other demands can be sufficient to prevent top-heavy storage additions of finished aviation fuel at old production rates.

For the week ended September 7, actual exports to Japan of California products averaged 21,100 barrels daily, as contrasted with 63,000 barrels daily in the previous week. Average movements to Japan for the full month of August was 62,500 barrels daily out of total export business of 164,000 barrels daily from California ports. Takings by Japan during August were on the order of about 10 percent of California's over-all production. Approximately the same ratio of shipments to Japan have prevailed over the first eight months this year, the total movement running to 15,236,000 barrels, or an average of 62,400 barrels daily. In the same 1939 period, shipments to that destination were 18,587,000 total barrels, or an average of 76,500 barrels daily.

Obviously, California is vitally concerned with the future course of events in the Far East and continued friendly trade relations between the United States and the Japanese government.

Separate and apart from the troubled nature of the foreign export outlook, the conservation program would be face to face with a serious situation even though quiet prevailed in exports and domestic consumption stepped up rapidly under the stimulus of the rearmament program and the accompanying quickened industrial activity. Since January 1 this year, drilling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activity in California fields has accounted for 750 new wells, as against 723 in the like 1939 period; and redrilling and deepening operations have been conducted on 548 old wells, as compared with 494 remedial jobs undertaken in the like 1939 period. Furthermore, abandonments have numbered but 289, as against 336 abandonments over the same 1939 period.

Drilling of new wells and remedial work undertaken on old wells between January 1 and June 31 this year accounted for an increase of 35 percent in the state's producible potential and the combined potential reported at the end of July of 3,057,975 barrels daily is the largest figure on record for the state. At January 1 the combined potential of all wells in the state was 2,257,174 barrels daily.

The real story of what has been happening as a result of intensive development work in prolific new flush areas brought on production over the past three or four years in the San Joaquin Valley and the Los Angeles Basin is portrayed by potential capacity data on some of these areas at the end of July, contrasted with comparative data at the start of January. Outstanding is the situation at Coalinga in Fresno County where development of the Coalinga Nose and Northeast Coalinga areas has pyramided potential capacity from 166,632 barrels daily at January 1, to 511,600 barrels daily at the close of July.

Largest potential for any field in the state is that at Wilmington in Los Angeles-Long Beach harbor. Producible potential at Wilmington, July 31, was estimated at 638,409 barrels daily, a figure that closely approximates the state's total production currently from all fields. At the start of the year Wilmington's potential was 547,287 barrels daily, the net increase after giving effect to decline in output of old wells and additions contributed by new wells approximating 90,000 barrels daily.

Elsewhere in the state, potential capacity of new fields has increased sharply also. Cole's Levee, for example, had a potential of 47,229 barrels daily at the end of July, contrasting with 10,108 barrels at the start of January; Kettleman North Dome was 203,867, as compared with 165,762; Rio Bravo, 245,771, as against 163,484; Ten Sections, 108,425, compared with 65,516; Ventura Avenue, 139,620, against 96,580; and Dominguez, 80,405 against 43,754. Of the active fields, West Montebello with a decline of about 6000 barrels daily in potential from 51,198 to 46,067, was the only area in the development stage to show a shrinkage in potential capacity. In this, field history is again repeating itself, production dropping off rapidly with depletion of reservoir gas pressures through intensive drilling and producing operations.

Combined potential of the nine fields listed above has jumped from 1,310,331 at the beginning of 1940 to 2,021,393 in seven months of intensive drilling activity. Complementing this increase, all other fields in the state have not only maintained their potential capacities but have shown an actual increase in total capacities ranging to upwards of 90,000 barrels daily, their combined potential at July 31 being estimated at 1,036,582, as compared with 946,843 barrels daily on January 1, 1940.

The sharp upward curve of potential capacities following in the wake of wide-scale drilling activity in all sections of the state has been the object of concern to the Conservation Committee for many months. This concern has expressed itself by the appointment of a New Well Sub-committee from among the membership of the Conservation Committee with the objective of soliciting cooperation from those companies and independent producers holding substantial blocks of undrilled proven acreage. Interest in the reception given this committee's activities centers around the steadily downward course of maximum well allowables under the state's uniform curtailment formula. Since June of 1939 when the uniform formula was introduced to the state, maximum well allotments have been progressively reduced from 250 barrels daily to 156 barrels daily, the maximum for September. At the same time, the formula has been adjusted to shift a part of the increasing curtailment burden to intermediate and marginal wells but the principal load has been assessed against the larger producers coming under the maximum limitations.

Unwillingness of the owners and operators of larger wells to continue to reduce output, coupled with a general cut in crude prices this spring approximating seven cents a barrel, are the primary influences pointing to prevailing uncertainties in the California production situation. On the one hand, producers have shown an inclination to step up their takings where possible to offset the lower revenues obtainable under the reduced price schedules; and on the other hand, owners of large wells are beginning to find the steadily downward course of maximum allowables oppressive. These two factors are believed to account for a considerable part of the increase in over-all output in the first two weeks of September, despite the fact that the Conservation Committee requested operators to lower statewide production by 16,000 barrels daily.

The steady upswing in total potentials for the state and the regular downward movement of individual well and property quotas has had important influence on the course of prospecting activity in recent months. From all appearances the downward trend in wildcatting interest which has manifested itself as the curtailment problem continues to increase is likely to hold for some time to come. Up to the time R. E. Havenstrite made what appears at this time to be a major new discovery in the Newhall area of Los Angeles County, California had gone for more than a year without a single addition of any importance to its crude reserves. From several new prospect wells scheduled each week, earlier this year, some recent weeks have witnessed the launching of only one or two new projects. A check of scout reports shows that where there were 101 active wildcats in various stages of drilling at the end of March this year, on September 7 the total number drilling was only 75. This was a reduction of 26 in about five months. The principal decrease was noted in the San Joaquin Valley where only 22 prospects are currently active, as against 45 at the end of March. In the Los Angeles Basin there are currently 22 projects under way, while on March 30 the number was 18. In the Coastal District the number has decreased from 31 to 23 and from the several Northern California counties the current number is eight as compared with seven at the end of March.

The curbing of wildcat drilling operations over the state can be taken as a reflection of uncertainties inherent in the present California situation.

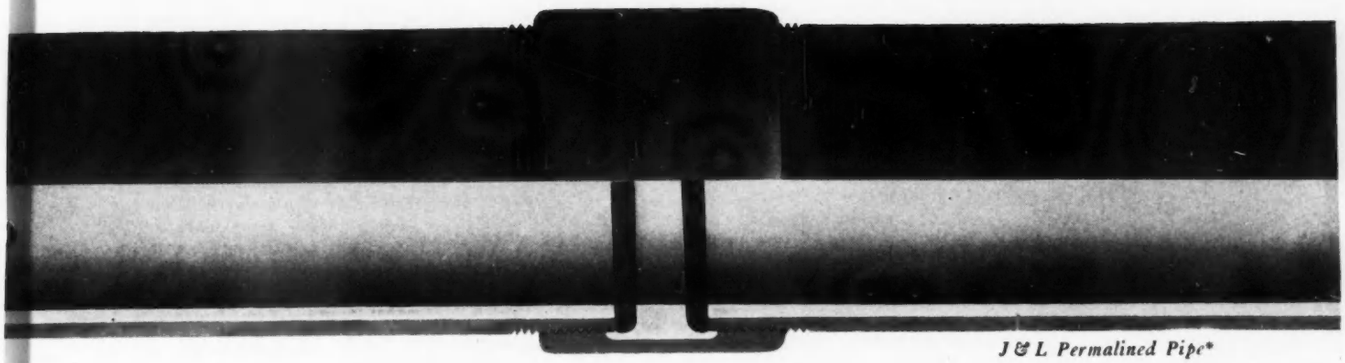

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Fig. 1007 Iron Gate Valve

Fig. 395-X Iron Body Gate

Fig. 1004-A Natural Gas Gate

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DRILLING CONTRACTORS' NOTEBOOK

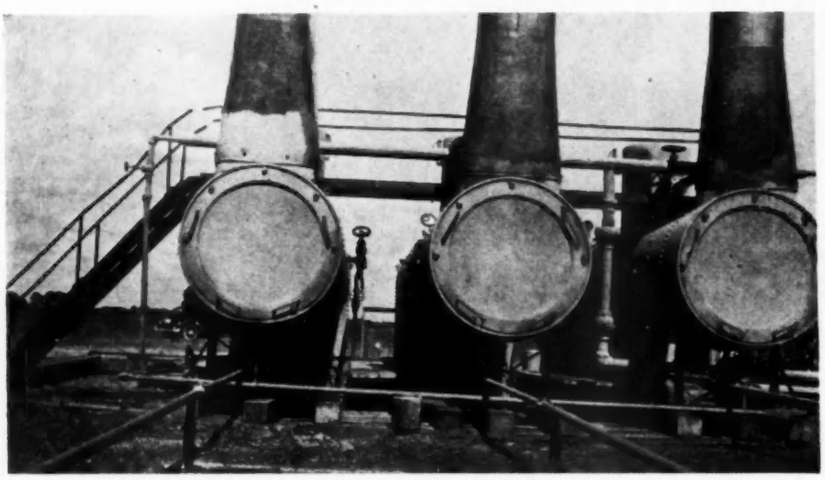
Helpful Suggestions For Those Interested In Drilling Methods

Operating Ideas Maintenance Hints New Rig Hook-ups

Published as a regular feature of THE OIL WEEKLY

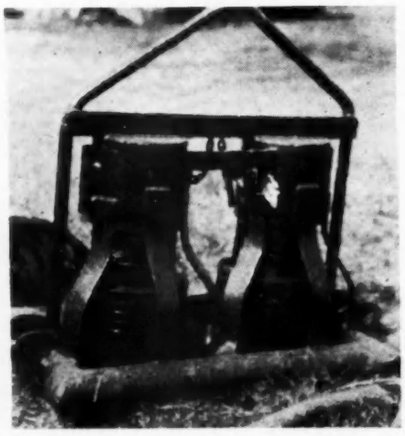
1. SAFETY

Railed Walkway Across Boiler Battery Protects Fireman From Falls and Burns



This railed steel walk-way protects the fireman from falls or serious burns.

SOME operators guard the fireman from serious falls or burns by using a railed steel walkway across the battery, rather than a loose, plankwalk. Work on the boiler tops is done from a strip of engine-room grille, or two or more strips securely fixed to form a walk. A guard rail made of sucker-rod or similar steel stock is welded to the walk, preventing bodily contact with the hot stack or steam dome. The stairway to the walk is of the type used on tank batteries or elevated derricks, provided with a welded steel guard rail if it is not so equipped originally.



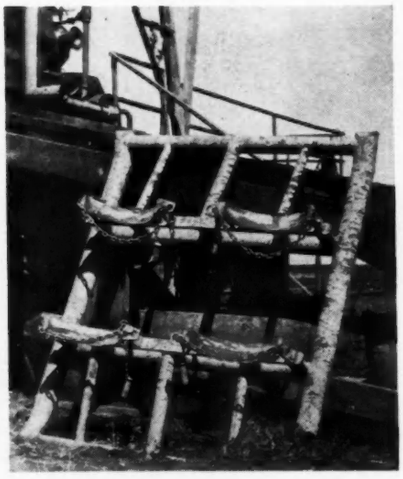
Blow-out preventer rams are protected in transit by this convenient cradle.

2. TRANSPORTATION

Skids Aid in Moving Blow-out Preventer

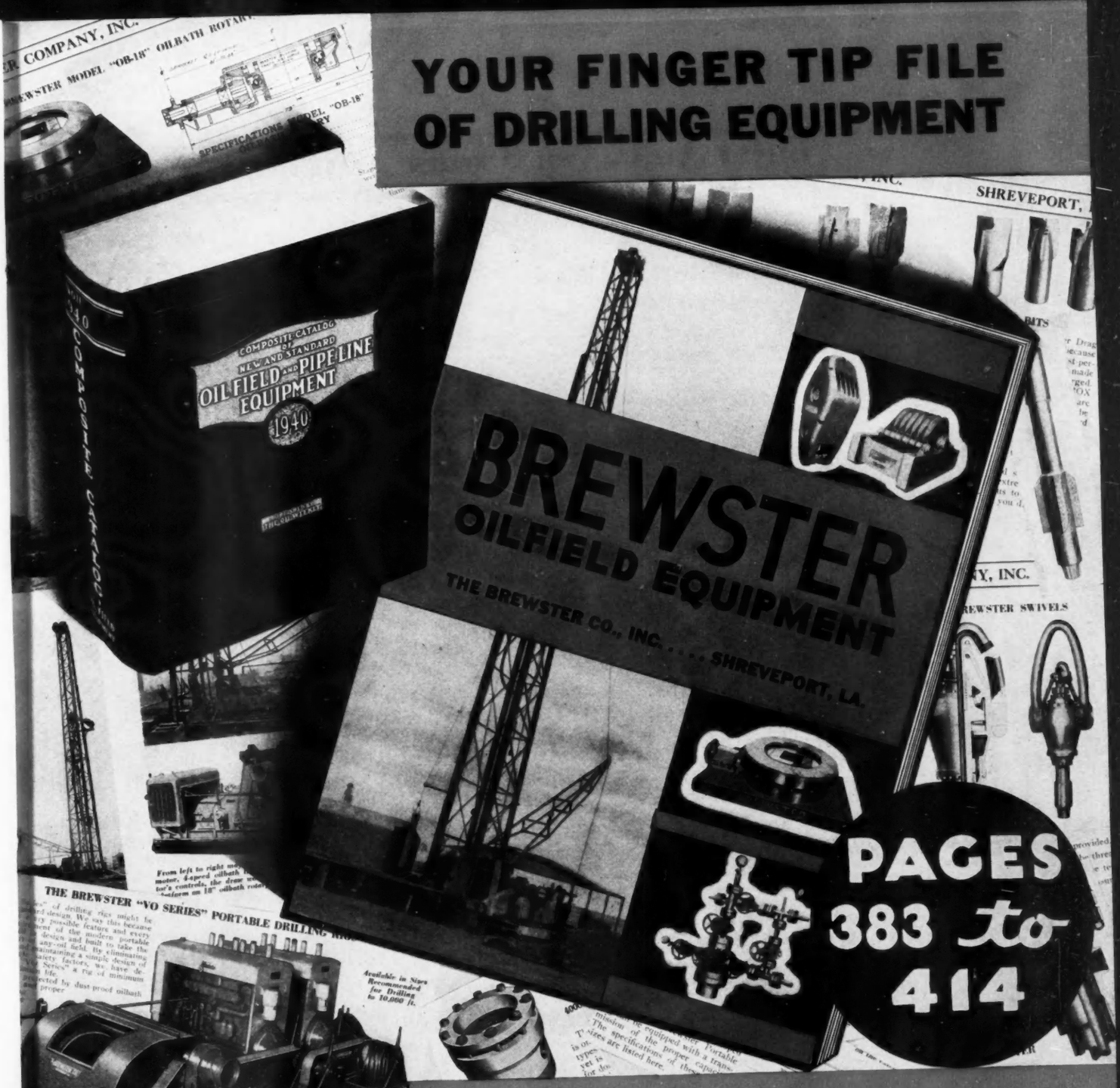
A GULF Coast operator has made special provision for handling blowout preventer bodies and rams, fabricating a special skid for each of the assemblies. The preventer body skid is fashioned of 6-inch pipe, forming the side and end members, and main cradle supports, and 4- and 3-inch pipe for the sustaining members. Three 4-inch supports are welded erect on each of the 6-inch transverse main cradle supports, with smaller bracing members welded to the end skid and the short riser. A flat 4x1-inch strip is welded across the tops of the risers, forming a base for the two arched cradles, also of 4x1-inch steel strip, which receive an end of the blowout preventer body. The upturned ends of the cradles are turned outward and drilled to receive the pin on the end of the chain used to lash down the preventer. All open pipe ends are blinded to keep out dirt and moisture.

The rams are handled separately, being placed in a sling or cage to prevent damage to the packing element, wing guides and shoulder recesses. The rams are placed in the cradle by swinging open one side of the hinged caps, placing the ram to rest on a base at the bottom of the cradle, and latching the cap. The cradle is provided with a heavy bail for lifting and another for towing.



This skid facilitates handling of blow-out preventer when changing location.

YOUR FINGER TIP FILE OF DRILLING EQUIPMENT


COMPOSITE CATALOG OF NEW AND STANDARD OIL FIELD AND PIPE LINE EQUIPMENT
1940
BREWSTER
OILFIELD EQUIPMENT
THE BREWSTER CO., INC. . . . . SHREVEPORT, LA.
PAGES 383 to 414

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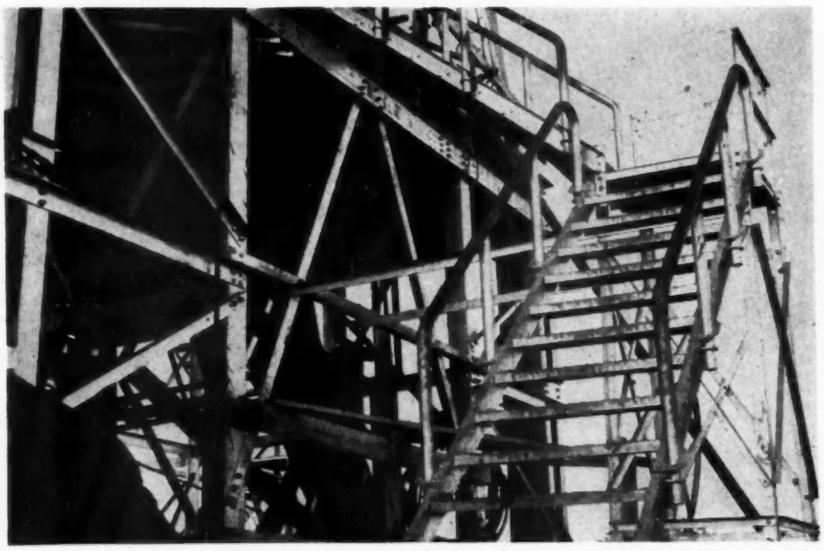
DRILLING CONTRACTORS' NOTEBOOK

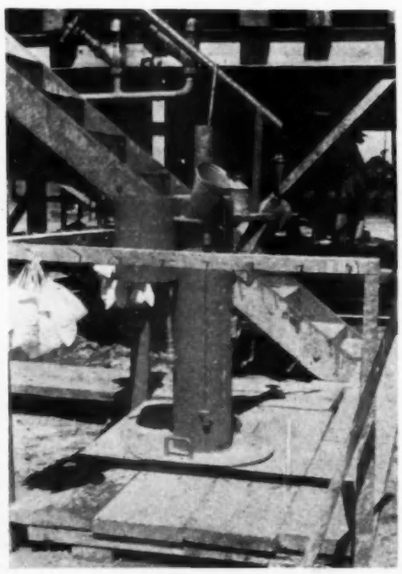
3. SAFETY

Steel Stairway With Hand Rails Provides Safe Access to Derrick Floor



A steel stairway with sturdy hand-rails provide a safe mount to derrick floor.

A FABRICATED steel stairway is used by Fain Drilling Company on high derrick substructures to provide a safe means of getting to the derrick floor. It is built with safety treads and open risers on a steel framework, with smooth rounded handrails and newel posts bracketed securely to the structure. A large landing is built into the stairway at the derrick floor level.



Storage chamber protects mud-testing apparatus, facilitating testing operation.

4. MUD TESTING

Apparatus Chamber Reduces Breakage

A STORAGE chamber for mud-testing prevents loss and some breakage, and expedites this operation.

One operator welds a split section of 10-inch pipe on a flat steel base, hinging the cut-out section to make a door to storage space. A shorter section of large pipe is welded to the top of the main chamber, forming a water reservoir. A section of 2-inch pipe long enough to float the mud-weight hydrometer is let through a hole in the top of the main chamber and welded with the top flush with the top of the chamber. A short steel arm and vise hold the centrifuge. The outfit is placed on a small board platform, and partly enclosed by a hand rail carrying nails to which sample bags may be hung.

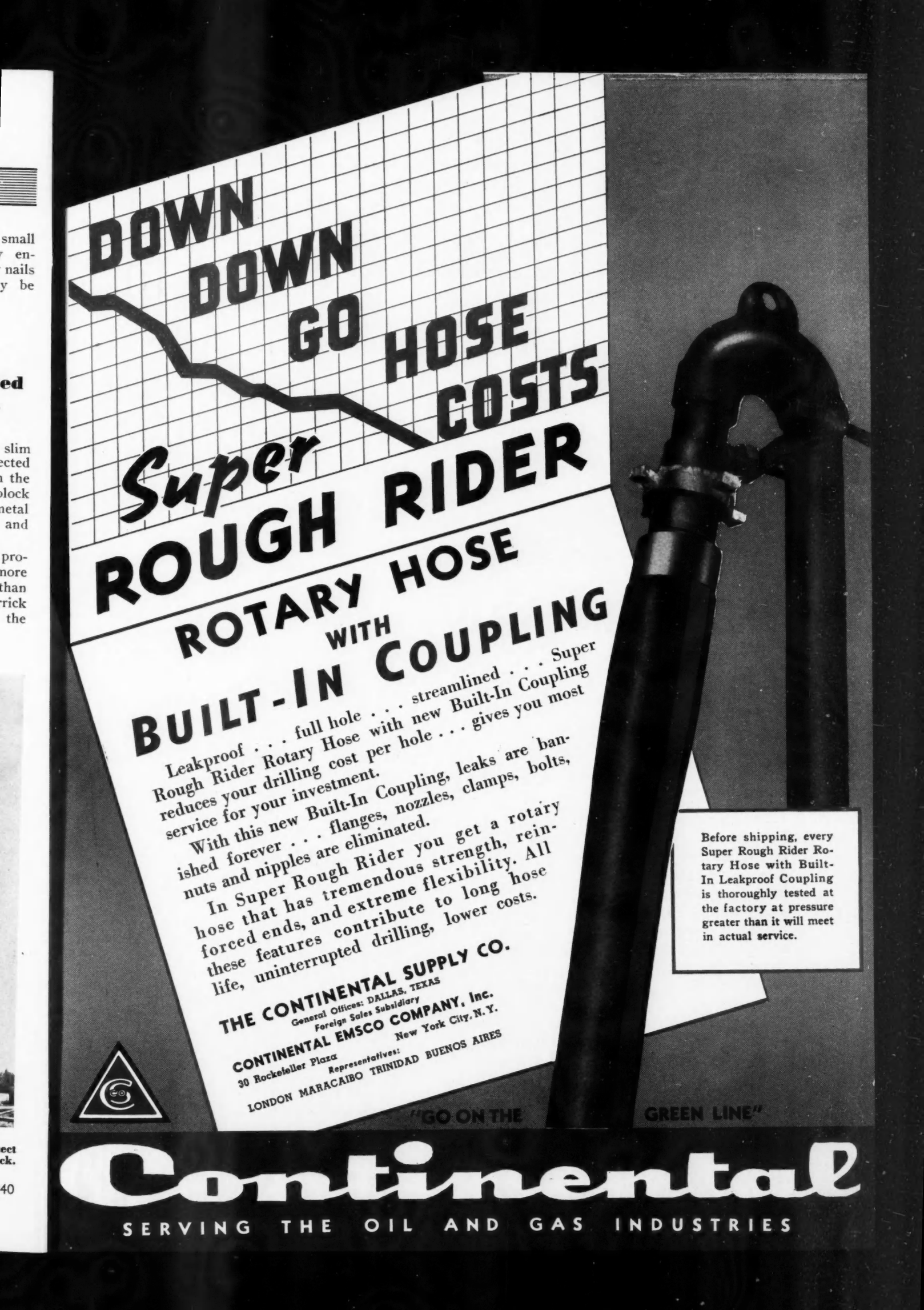
5. RIGGING UP

Protection Afforded Derrick Braces

GIRTS and braces on this slim hole rotary rig have been protected from distortion resulting from the side sway of the traveling block and swivel by two separate metal shields bolted to the derrick and covering two lengths of girts.

The area covered by this protective shield is contacted more often by the traveling block than any other portion of the derrick due to tapering of the legs at the top.

Shields bolted to the derrick protect girts and braces from the swaying block.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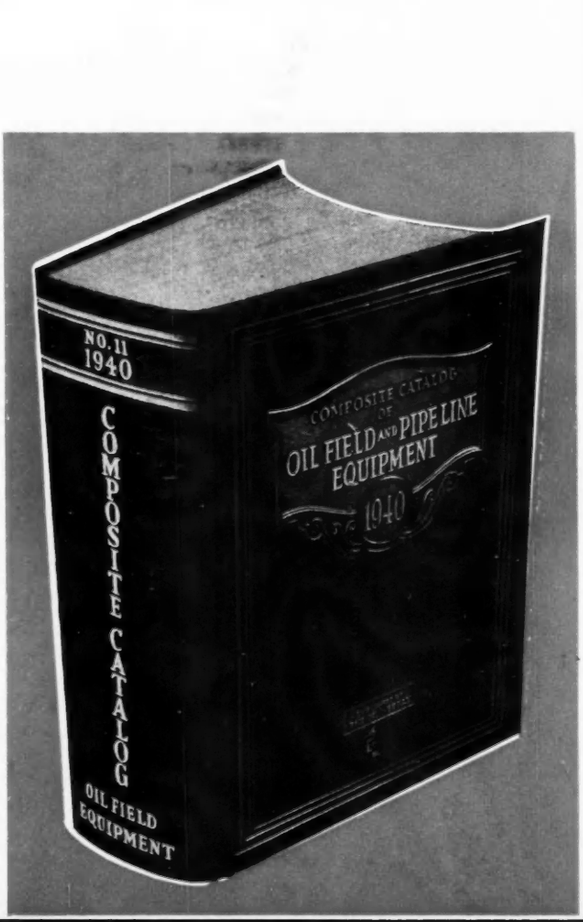

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THE COMPOSITE CATALOG

HIGHLIGHTS IN THE WEEK'S NEWS

Washington

Ickes Continues Conversations With Oil Men on Conservation

Conversations between Secretary of the Interior Harold L. Ickes and four oil men over the formation of a committee to be headed by a government official to take charge of conservation problems during the defense emergency continued last week, surrounded by the same deep silence which followed the initial meeting of the group September 16.

It was learned that the conferences who initiated by Secretary Ickes, who invited Walter C. Teagle, president of Standard Oil Company of New York; Charles F. Roeser, of Roeser & Pendleton Oil Company, Fort Worth; Paul Blazer, of Ashland Refining Company, Ashland, Kentucky, and A. C. Mattei of the Honolulu Oil Company, San Francisco, to come to Washington.

Amid conflicting reports of the conferences circulating in Washington, the most plausible last week was one that the Interior Secretary was planning a committee of which he would be the head, to take over the national problems of conservation. There were no indications that the National Defense Advisory Committee was in on the meetings, or that it was interested in the matter.

If Ickes is, in fact, seeking to bring about such a set-up, it will be his second effort to secure a position in the national defense organization, his first having been the creation of an Interior Department defense committee some weeks ago, following which he announced that the department was in a position to deal promptly with oil or other problems which might come up.

Among members of the industry, considerable surprise was voiced over the make-up of the group called in to confer with Ickes. While it was admitted that Teagle and Roeser might be considered representative of two schools of thought in the industry, it was hard to fit either Blazer or Mattei into the conservation picture, since neither of them have nation-wide interests.

There has been some discussion of the subject with the Department of Justice, but officials there refused comment. Meanwhile, no information whatever is forthcoming from the Interior Department and the four oil men have been sworn to secrecy.

Promise Decision on Disintegration Suit Filing

Decision of the Department of Justice with respect to filing a suit for disintegration of the oil industry, vigorously opposed by the National Defense Advisory Commission, will be announced by October 1, it was promised September 26 by Attorney General Robert H. Jackson.

Jackson explained that pressure of other matters had made an earlier decision impossible, but did not indicate what action would be taken.

In informed quarters, it was said the indications are that the department will file a suit, but will confine it to allegations of price rigging, deferring action on the disintegration phases until the return of more normal conditions.

On the other hand, it was understood that officials of the anti-trust division were pressing for the filing of the suit as originally outlined, taking the position that it would be in the courts so long that the present defense emergency would be over before a decision could be rendered. As an alternative, it was suggested that the case be taken into the courts with a view to protecting the defense program by delaying application of any disintegration orders which might be issued.

In a lengthy discussion of the possible effects of even the filing of the suit on the defense program, the National Defense Advisory Commission last week exhibited deep concern over the effects of any move now to secure disintegration of the oil industry. While it did not oppose the filing of the suit, the report made it clear that responsibility for any adverse effects on defense would lie entirely with the Department of Justice.

Roeser Sees President About Pending Federal Oil Suit

Views of the Department of Justice and the independent oil producers on the former's proposed suit against the oil industry were laid before President Roosevelt this week by Attorney General Robert H. Jackson and Charles F. Roeser of Fort Worth, respectively.

At a press conference September 24, the President said that the two visitors had assured him that the matter was going along all right, but declined to discuss the subject in detail.

It was pointed out to Mr. Roosevelt that some suggestion had been heard that there might be an effort to revive the Cole bill, but the President said that the general attitude is there can be regulation without federal control, although, he contended, the legislation did not set up any federal regulation.

The President admitted that the measure appeared to be sleeping quietly in the hands of the oil group of the House Interstate and Foreign Commerce Committee where, earlier, Chairman William P. Cole, Jr. (Dem., Md.), had indicated no report on the measure would be submitted in the near future, particularly if, as now appears possible, Congress recesses over the campaign instead of adjourning the session.

Government Broadens Plans For Defense Oil Storage

Plans of the War and Navy Departments for the accumulation of defense supplies of aviation gasoline have been materially broadened as a result of recently expressed fears of the National Defense Advisory Commission that there may be difficulty in securing an adequate supply of the crude oils most desirable for that type of motor fuel, it was learned last week.

Planning originally to store only the blending materials necessary for high-octane gasoline, the administration now contemplates the holding also of the bases for the gasoline as well.

As announced some time ago, it was believed the plan called for the storing of the aviation gasoline itself, but it is said now that the completed product will not be stored because of possible losses by evaporation and deterioration, but that supplies of the necessary components would be secured. It was explained also that for some purposes it may be possible to use lower-octane gasoline, thus conserving the supply of the high-octane product, which could be secured by blending.

No definite information, however, has ever been made available as to just what the Army and Navy propose to do under the storage program, which is to be financed by the Reconstruction Finance Corporation.

Imports

Bill to Exclude Mexican Oil Given Committee Approval

Moving quickly in its fight against continued heavy imports of Mexican oil, the House Judiciary Committee this week made a favorable report on the Sumners bill authorizing the President to prohibit the entry of confiscated property for which payment has not been made or arranged for.

The measure, a substitute for the McCormack "stolen property" bill but directly aimed at the importation of oil

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West Texas	45
Wildcat Development	57

from properties expropriated by the Mexican government, was introduced last week by Chairman Sumners of the Judiciary Committee, head also of the committee set up at a caucus of the Texas delegation earlier this month.

Sumners said the bill would be brought up in the House at the first opportunity, and it was indicated that a special rule would be sought giving the measure precedence over other pending legislation.

According to the Congressman, the State Department, which had vigorously opposed the McCormack measure because of mandatory provisions, offered no objections to the substitute, which is purely discretionary.

The bill provides that "whenever the President shall find that property which has been confiscated in any foreign country is being or may be brought into the United States contrary to the public interests, he may, if in his judgment those interests would be served thereby, order exclusion of such property from importation."

It also stipulates that "if the property has been processed or transformed into property of a different character, or has been commingled with other property of like or similar character in such manner as to lose its identity or to render impracticable its segregation from such other property, the President may order exclusion of such processed, transformed, or commingled property from importation into the United States.

"Whoever imports or attempts to import or bring into the United States any such property in contravention of any order issued by the President shall be subject to provisions of the National Stolen Property Act of 1934, as amended and extended."

The bill defines "confiscated property" as "property which has been taken by means of force, or by means of any law, decree, order, ordinance, or other act, direct or indirect, of any foreign state or government, whether recognized or unrecognized, or of any political subdivision of such state, or of any official board, commission, instrumentality or agency of any such state, government, or political subdivision, without payment of just compensation or reasonable provision therefor having been made."

The House Rules Committee on September 26 granted a rule on the bill, giving it right of way on the House floor over other pending legislation, and the measure probably will be brought up this week.

The bill was handled as a substitute for the Sheppard bill passed by the Senate, which is identical with the McCormack bill. By doing this, the House eliminates the necessity of the Sumners bill being considered as a new measure by the Senate; if passed by the House as an amendment to the Sheppard measure, it can go to conference immediately.

The major difference between the Sheppard-McCormack and Sumners bills is that under the former the barring of stolen property is made mandatory while under the latter it is left to the discretion of the president.

Allowables

Allowables Less Strict Under October Orders

Allowables that have been ordered for October in the prorated states indicate that the nation's crude oil production will not conform quite as closely with market demand during the month as it did in September, although no substantial overproduction is due to occur.

The 8 prorated states will have aggregate allowables about 41,669 barrels daily, or 1.4 percent, above indicated current market demand for oil from those states, as estimated by the United States Bureau of Mines.

Under these allowables, there should not be any great backing up of crude oil in storage. The mentioned states account for about 83 percent of all United States production.

The same 8 states in September had combined allowables 52,213 barrels, or 1.8 percent, under market demand, as estimated by the Bureau of Mines. And statistics on crude oil stocks have indicated that actual production has been fairly well in line with the market requirements.

In fact, there has not been any material net change in crude stocks since July 1.

Texas, Kansas, and Arkansas will exceed their market demand estimates, while Louisiana, Oklahoma, California, and probably New Mexico will have allowables lower than the bureau estimates of demand; and Michigan's production likely will again fall short of indicated demand to some extent. While these states in the aggregate will have allowables about 41,000 barrels in excess of market demand, California actually has been producing about 20,000 barrels a day more than demand, whereas its October allowable is 12,000 under demand. These figures indicate that the 8 mentioned states actually are likely to produce at least 73,000 barrels a day more than market demand.

However, unprorated Illinois, which formerly overproduced, is no longer fulfilling its market demand, output in the week ended September 21 having been 43,000 barrels less than the indicated daily average demand for October. This much underproduction in October would leave a net overproduction of only about 30,000 barrels daily for Illinois and the 8 above mentioned states in the aggregate. These 9 states account for 94.4 percent of all the market demand in the United States.

Allowables Less Strict in October but Not Far Above Market Demand
(Barrels Daily)

STATE	Bureau of Mines Estimate of Demand	State Allowable Beginning of Month	Excess or Deficiency of State Allowable	Percent Excess or Deficiency
Arkansas	70,700	74,595	+ 3,895	+ 5.5
California	583,200	[1]571,000	− 12,200	− 2.1
Kansas	178,700	[2]190,000	+ 11,300	+ 6.3
Louisiana	274,200	269,631	− 4,569	− 1.7
Michigan	53,900	[3]51,400	− 2,500	− 4.6
New Mexico	104,500	[4]99,500	− 5,000	− 4.8
Oklahoma	403,500	390,000	− 13,500	− 3.4
Texas	1,305,200	[5]1,369,443	+ 64,243	+ 4.9
Total 8 Prorated States	2,973,900	3,015,569	+ 41,669	+ 1.4
Illinois	405,200	[6]362,100	[7]− 43,100	[7]− 10.6
Other States	201,500	.....	.....	.....
Total United States	3,580,600	.....	.....	.....

[1] Recommendation of Central Committee of California Oil Producers.
[2] Kansas conservation authorities late last week estimated actual demand at 189,000 to 191,000 barrels daily for October, and allowable likely will be set around the 190,000-barrel level.
[3] Estimate of actual production that will occur under prescribed regulations, which do not fix a definite state total allowable.
[4] Estimated 5,000 barrels under Bureau of Mines forecast of demand, as allowables have been similarly under demand in recent months.
[5] Net basic daily allowable as of September 21. Texas fields will be shut down October 5, 6, 12, 13, 19, 20, 26, 27, and 31, under previously issued order, and net allowable will increase with completions of new wells.
[6] Level to which unprorated Illinois production had naturally declined in week ended September 21, 1940.
[7] Amount by which actual production fell below indicated market demand in week ended September 21, 1940.

Only Third of Oil Producers Had Taxable 1938 Income

Only 1975 out of 5992 oil-producing corporations reported taxable net income from their 1938 operations, it was disclosed September 29 by the Internal Revenue Bureau at Washington in an analysis of income returns filed last year. These 1975 companies, the report showed, had an aggregate gross income of $604,450,000 and a net income of $73,727,000, on which they paid income and undistributed profits taxes of $10,211,000 and excess profits taxes of $131,000.

Another 3336 corporations with no net income reported an aggregate gross of $345,918,000 and an aggregate deficit of $60,340,000. The remaining 681 corporations were inactive.

The companies paying income taxes paid dividends, other than stock dividends, amounting to $79,201,000, while the deficit companies paid $16,975,000, it was shown. Out of a total of 765 corporations manufacturing petroleum and coal products, 315 had taxable net income having an aggregate gross of $2,459,321,000 and a net of $146,406,000, on which they paid $15,003,000 in income and undistributed profits taxes and $29,000 in excess profits taxes.

Another 398 corporations with an aggregate gross income of $2,638,970,000 had an aggregate deficit of $88,121,000, and 52 corporations were inactive.

The tax-paying corporations paid dividends of $155,880,000 and the deficit group paid $29,847,000, the bureau reported.

Dyersdale Hearing

Special operating rules for the new Dyersdale field, Harris County, will be considered by the Texas Railroad Commission October 10.

Crude Production Moderate But Runs to Stills Large

Latest statistics of the industry, covering the week ended September 21, reflected curtailment of crude oil production but at the same time a sharp stepping up of crude runs to stills. Consequently, gasoline production increased to the highest level of the year and almost to the all-time peak that was set last fall; and only a subnormal withdrawal of gasoline from storage was possible. Stocks of light fuel oils were further increased 500,000 barrels, but storage of heavy fuel oils was reduced 1,000,000 barrels.

United States crude oil production averaged 3,621,000 barrels daily in the week of September 21, a few thousand barrels less than indicated average daily market demand for September. It was 26,350 barrels daily less than the output in the previous week, and 60,000 less than that in the corresponding week last year.

Crude runs to stills jumped from 3,580,000 to 3,680,000 barrels daily, and were near the all-time record of 3,690,000 barrels, established in the week ended June 22 this year. The runs were 4.6 percent larger than in the comparable week last year, when they averaged 3,517,000 barrels a day.

Production of gasoline set a new record for 1940 in totaling 12,135,000 barrels. That was 411,000 barrels more than the output in the previous week, and was close to the 12,182,000-barrel all-time record, set in the week ended October 21, 1939.

Stocks of finished and unfinished gasoline in the United States, in reflection of the large production for the week, were reduced only 340,000 barrels, which was less than a normal amount for the season. At the end of the week they stood at 82,960,000 barrels. That was about 11,500,000 barrels, or 16.2 percent, higher than at the corresponding time last year, when stocks were larger than necessary; and this gain over a year ago therefore represents surplus gasoline, total demand being only a little larger now than then.

In anticipation of large consumption of heating oil in coming months, the industry has continued to increase stocks of gas oil and distillate fuels. In the week of September 21, 515,000 barrels of the light fuel oils went to storage, the total inventory having grown to 47,163,000 barrels. That was over 9,000,000 barrels more than the 37,984,000 barrels held a year previously, a 24.2 percent increase.

Heavy fuel oils apparently were in brisk demand in the September 21 week, as the industry took 944,000 barrels out of storage, in the face of indicated relatively large current production. From 109,135,000 barrels the stocks of residual fuel oils came down during the week to 108,191,000 barrels. The amount left on hand was about 6,400,000 barrels, or 5.6 percent, smaller than that of 114,588,000 barrels held a year before.

Stocks of crude oil in the United States totaled 262,475,000 barrels September 14, the United States Bureau of Mines reported, having been reduced 241,000 barrels in the week ended on that date. The crude inventory is about 30,000,000 barrels larger than a year ago, when it was still near the extremely low level to which it dropped during the general shutdowns of the Mid-Continent oil fields.

North Texas Production Boosts Tax Pipe-Line Capacities

Substantial production increases assigned to North Texas high-gravity oil areas since September 1 have resulted in temporary pipe-line congestion in some of the larger fields. Lifting of production holidays effective September 21 in the K-M-A and Hull-Silk deep areas along with an increase in the per-well allowable of the latter to 40 barrels daily accounts for a 14,000-barrel boost.

The production hike caught Stanolind Pipe Line Company unprepared as it has been forced to operate its new 6-inch outlet from K-M-A at top capacity since mid-September in making up back allowable accumulated during the first half of the month when initial crude runs were unavoidably delayed about two weeks. Magnolia Pipe Line Company likewise is cramped for space under the new quotas, and will not have ample facilities to serve its connections in the two areas until a new 8-inch outlet from Hull-Silk is completed about November 1. This new unit will give the company a total outlet of 30,000 barrels daily.

Both Promising and Adverse Signs Appear in Markets

The industry's markets last week, as in the previous week, were steady, with prices generally unchanged; and no material alteration of the existing situation was indicated for the immediate future.

Active interest is being manifested in heating oils and natural gasoline, with cooler weather just ahead, and prices for those items have been particularly firm. Tractor fuel also is in good seasonal demand, for fall plowing, and kerosene is steady.

Gasoline demand continues relatively good, and there has been no further pressure on established wholesale and retail prices, despite the general knowledge that the industry is burdened with an exceptionally large surplus of that product.

Helping to steady the gasoline market, apparently, is the fair prospect of a betterment of the inventory situation in coming months. For the industry is entering the fall-winter season with larger stocks of heating oil than usual, and it may be able to meet the expected large market demand for that product this winter without the necessity of maintaining such high refinery runs as to result in large production of unnecessary gasoline.

Nevertheless, extremely cold weather this winter would promote the production of surplus gasoline, and at best,

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[6]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
July 29	3,539,100	3,460,000	268,513,000	77,887,000	34,900,000	114,053,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[5]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
September 30	3,658,200	3,560,000	233,023,000	71,168,000	38,081,000	115,466,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[2]229,127,000	72,122,000	39,358,000	115,060,000
October 28	3,498,500	3,520,000	230,453,000	72,660,000	39,562,000	114,786,000
November 25	3,818,100	3,510,000	231,811,000	75,595,000	38,527,000	112,106,000
December 30	3,545,000	3,445,000	237,742,000	80,985,000	34,184,000	106,680,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[1]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 7	3,623,850	3,500,000	262,716,000	84,294,000	45,505,000	108,080,000
September 14	3,647,400	3,580,000	262,475,000	83,300,000	46,648,000	109,135,000
September 21, 1940	3,621,000	3,680,000	.....	82,960,000	47,163,000	108,191,000
September 21, 1940	3,681,000	3,517,000	233,016,000	71,395,000	37,984,000	114,588,000
Change in past year	—1.6%	+4.6%	+12.7%	+16.2%	+24.2%	—5.6%

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, September 16, 1939.
[5] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [6] Lowest for year.
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
[8] September, 1939, daily average.

Wholesale Prices of Refined Products

REFINED GASOLINE	Range late Last Week (Cents a gal.)		Changes from week Before	
Oklahoma Refineries:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4⅝	...	...
72-74 Octane	4⅝	5¼	...	...
Mid-Western Tank Car:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4¾	...	...
72-74 Octane	4⅝	5	...	...
New York Harbor:				
68-70 Octane	4⅝	5½	...	...
72-74 Octane	4⅝	6½	...	...
Gulf Coast:				
60 Octane unleaded	3⅝	4½	...	...
72-74 Octane leaded	3½	4¾	—⅛	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	2¼	2¼	...	...
F.O.B. Breckenridge, Texas	1¾	1¾	...	—¼
KEROSENE				
Oklahoma Refineries:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
Mid-Western Tank Car:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
New York Harbor	4⅜	4⅜	...	...
RANGE OIL				
At Oklahoma Refineries	3½	3⅞	...	...
In Mid-Western Market, Group 3 basis	3½	3⅞	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3¼	3½	...	...
No. 3	3⅛	3⅜	...	...
Mid-Western Tank Car:				
No. 1 white	3⅜	3¾	...	...
No. 3	3⅛	3⅜	...	...
New York Harbor:				
No. 1	4⅜	4¾	...	...
No. 3	4⅛	4⅛	...	...

HEAVY FUEL OILS	Range late Last Week (Per Bbl.)		Changes from week Before	
Oklahoma Refineries:				
No. 6	$0.55	$0.55	...	...
Mid-Western Tank Car:				
No. 5	.75	.75	...	...
No. 6	.50	.55	...	...
New York Harbor:				
No. 5	1.35	1.55	...	...
No. 6	1.15	1.25	...	...
BUNKER C FUEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$ .80	$ .90	...	...
New York Harbor	1.15	1.25	...	...
DIESEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$1.50	$1.70	...	...
New York Harbor	1.70	1.70	...	...
Los Angeles Basin, 27 gravity	1.10	1.35	...	...
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 10-25 pour test	13	15½	...	...
Neutral oil, pale No. 3 color, 150 viscosity at 100°, 0-10 pour test	8	10¼	...	...
Western Pennsylvania:				
Bright Stock, 145-155 viscosity at 210°, 25 pour test	12	13	...	...
Neutral Oil No. 3 color, 150 viscosity at 70°, 25 pour test	19	19	...	...

the outlook for the gasoline market is only hopeful, rather than bright.

Coming months, consequently, are likely to bring periods of unsteadiness in the gasoline market and continued low prices, with any substantial improvement in prices before late winter or early spring doubtful.

Changes in gasoline prices in various parts of the country lately have been both upward and downward, in reflection of contrasting situations in different localities.

Standard Oil Company of Indiana has announced that effective October 1 it will advance all subnormal tank wagon prices to both dealers and consumers in North Dakota on third-grade gasoline ½ cent a gallon, or raise prices to normal if the subnormalcy is less than ½ cent.

On September 25, Magnolia Petroleum Company advanced its tank wagon prices on gasoline and kerosene in North Texas, West Texas, and the Texas Panhandle. Prices of regular and third-grade gasoline were raised by different amounts ranging up to 1 cent a gallon, depending on their subnormalcy, and kerosene prices were similarly increased. Continental Oil Company had advanced its prices similarly in the same districts September 24.

Several refiners in North Texas about the same time increased tank car and tank truck quotations on kerosene ½ cent a gallon.

Effective September 25, Socony-Vacuum Oil Company reduced its tank car prices of gasoline 2/10 to 4/10 cent a gallon throughout New York and New England. The company indicated at the same time that it would also reduce tank wagon prices in those areas where the market was not already depressed.

Heavy fuel oils lately have come into increased demand, and supplies are reported to be getting tight in the industrial centers around the Great Lakes. It was significant that a million barrels of residual fuel oil came out of storage in the week ended September 21 despite near-record refinery runs and relatively large current output of the heavy fuels. The expected pickup of industrial fuel oil consumption, because of the defense program, apparently is under way.

Likewise, there has been some improvement in demand for lubricants,

United States Crude Oil Production Up 157,825 Barrels

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in Sept.	State Allowable in Sept.	BARRELS DAILY FOR WEEK ENDED Sept. 21	Sept. 28
TEXAS—				
Texas Panhandle	.....	.....	78,100	79,150
North Texas	.....	.....	97,550	134,200
West Central Texas	.....	.....	29,775	32,675
West Texas	.....	.....	229,400	253,850
East Central Texas	.....	.....	75,100	77,950
East Texas Field	.....	.....	374,800	448,100
South Texas	.....	.....	218,600	243,575
Texas Gulf Coast	.....	.....	212,250	246,725
Total Texas	1,320,300	1,369,443*	1,315,575	1,516,225
CALIFORNIA—				
Long Beach	.....	.....	44,100	43,100
Midway-Sunset	.....	.....	45,200	38,300
Kettleman Hills	.....	.....	46,100	47,200
Wilmington	.....	.....	83,500	81,600
Others	.....	.....	389,400	377,700
Total California	593,000	571,000†	608,300	587,900
OKLAHOMA—				
Oklahoma City	.....	.....	94,150	94,850
Seminole Area	.....	.....	96,500	97,350
Others	.....	.....	211,700	211,725
Total Oklahoma	397,000	390,000	402,350	403,925
ILLINOIS—				
Salem	.....	.....	151,500	147,200
Louden	.....	.....	74,700	69,500
Centralia	.....	.....	22,300	21,500
Other New Pools	.....	.....	98,900	100,500
Old Pools	.....	.....	10,500	10,300
Total Illinois	430,000	.....	357,900	349,000

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in Sept.	State Allowable in Sept.	BARRELS DAILY FOR WEEK ENDED Sept. 21	Sept. 28
LOUISIANA—				
North Louisiana	.....	64,700	65,100	65,200
South Louisiana	.....	219,850	218,900	218,900
Total Louisiana	274,700	274,854	284,000	284,100
KANSAS	170,700	190,000	201,700	193,550
NEW MEXICO	105,300	100,300	99,850	98,700
EASTERN STATES—				
Pennsylvania Grade	70,300	.....	70,350	70,050
Others, Eastern	21,600	.....	19,950	20,050
Total Eastern States	91,900	.....	90,300	90,100
MOUNTAIN STATES—				
Wyoming	75,300	.....	73,950	74,100
Montana	17,700	.....	17,500	17,400
Colorado	4,000	.....	3,400	3,450
Total Mountain States	97,000	.....	94,850	94,950
MICHIGAN	55,700	52,000‡	51,800	51,250
ARKANSAS	69,700	75,105	73,550	72,900
INDIANA	9,300	.....	18,150	17,900
MISSISSIPPI	9,700	.....	27,250	22,850
NEBRASKA	.....	.....	200	250
§Total 8 Prorated States	2,986,400	2,032,487	2,963,575	3,208,350
Total United States	3,624,300	.....	3,625,775	3,783,600

* Net daily average as of September 21, considering general shutdowns, with exemptions, on September 1, 2, 8, 14, 15, 21, 22, 29, 30.
† Recommendation of Central Committee of California Oil Producers.
‡ Department of conservation estimate of actual production.
§ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.

apparently in reflection of increased use for industrial purposes. In Western Pennsylvania, refiners have reported increased shipments of both bright stocks and neutral oils, with the bright stocks in particularly good demand.

Crude Oil Market

Although the crude markets have continued fairly steady, a warning was voiced to the Texas Railroad Commission by a major purchaser that some fields in that state would be left without firm market if the commission did not alter its policy of granting increases of field allowables in fields favored by purchasers, at the expense of fields not so favored. Consequently, the commission has scheduled a hearing September 30 for considering the situation, and it subsequently may order quotas for certain fields reduced.

One district of Texas in which the market is exceptionally firm, nevertheless, is North Texas. Demand for the high gravity crude of the area is brisk, and it promises to improve as Illinois production continues to shrink.

In contrast with the situation in North Texas, adverse market developments have occurred in North Louisiana, Arkansas, and Mississippi. The recently completed Mississippi refinery is said to have had difficulty in moving out finished products, and shipments of Mississippi crude to Mobile have been discontinued. Standard Oil Company of Louisiana has been purchasing 100 barrels per well daily, but some of the operators have been producing above that amount, with the excess going to storage.

There has been some overproduction also in the Schuler field, Arkansas, with adverse effect on the market. Pure Oil Company has allowed to lapse a contract that had run for about 2 years, covering purchase of Schuler crude from Standish Pipe Line Company (Phillips Petroleum Company) and others. Under the contract, oil from the field had been moving by pipe line to the East Texas field and thence through the Pure-Van pipe line to the Gulf Coast. It is understood that Standish now is storing 4000 barrels daily but cannot do so long.

Domestic Tanker Rates Advance Cent a Barrel

A slight stiffening of domestic tanker rates has occurred, last paid rates for clean boats having been up 1 cent a barrel for the Gulf-North Atlantic run, at 19 cents for gasoline, 20 cents for kerosene, and 21 cents for No. 2 fuel oil. Clean tonnage was becoming less readily available, and some owners were asking 1 cent more than the above indicated last-paid rates.

Dirty tonnage still was available at the last-paid rates of 18 cents for 30-gravity or lighter crude, and 20 cents for 10-20 gravity fuel oil.

Fort Worth-Oklahoma City Pipe Line Half Finished

Magnolia Petroleum Company has completed 111 miles of its projected 187-mile 4½-inch gasoline carrier that will extend from its Fort Worth refinery to Oklahoma City. Intermediate distribution points will be established along the line, which will have a capacity of 3000 barrels daily.

World-Wide Developments

Britain Loses Over Half Of Tankers Sunk in War

In the first 9 months of the European war, September 1, 1939, to May 31, 1940, 56 oil tankers of 556,939 deadweight tons were sunk, according to an article in the first issue of the new publication, *Tanker Technique,* edited by the author of the book by that name.

Great Britain has been the heaviest loser, having lost 30 tankers of 300,157 tons, or over half the boats and tonnage. No other country accounts for as much as 10 percent of the total losses, the ships sunk having included 5 of Norway, 5 of Germany, 4 of the Netherlands, 3 each of Eire, France, and Sweden, and 1 each of Denmark, Italy, and Roumania.

Among owners of the sunken tankers, the Royal Dutch-Shell group lost most heavily, having owned 9 of 82,974 tons. The Anglo-Iranian company, controlled by the British Admiralty, lost 5 ships, Standard Oil Company of New Jersey 4, Inver Tankers 3, United Molasses 3, John T. Essberger 3, and Hunting 2.

Submarines have proved to be the most effective instrument for sinking tankers; while mines, drifting or fixed, have taken the second largest toll. A tabulation embodied in the article showed that 19 tankers were sunk by submarine, 8 by mine, 4 by warship, 3 by scuttling, and 1 by aircraft, while the means of sinking was disputed in 5 instances, not specified in 12 cases, and unknown in 4.

Another table identified each lost tanker by name, owner, and flag and indicated the age, weight, and means of sinking for each ship.

Japan Seeking Gasoline In Dutch East Indies

Fred Kaye, representing Standard Vacuum Oil Company, and J. C. Van Eck, representing Royal Dutch Shell in commercial negotiations underway in Batavia, Java, between a Japanese delegation and the Dutch East Indies government, may witness the forcing of their companies to divert large quantities of gasoline and crude oil to Japan from British and American consumers now taking the entire high-octane gasoline output of the Netherlands Indies.

The American embargo on aviation gasoline has forced Japan to turn to the Netherlands Indies for oil. Japan now demands 2,000,000 metric tons of Dutch East Indies oil annually instead of 1,000,000. And the two companies represented by Kaye and Van Eck control the output of the East Indies, estimated at 6,500,000 metric tons annually.

Outcome of the current negotiations hinges on whether the Dutch Colonial government is forced to adopt a policy of appeasement. And Dutch sources in New York last week were quoted as saying that many of the colonial leaders in the Indies were not opposed to the idea of a Pacific economy if it follows the lines of a neutral development. They said the colonies would listen to the new Japanese schemes for reconstruction of East Asia so long as the inferences of political interference were not too great.

That Japanese refining processes are not on a par with those in other parts of the world when it comes to high octane gasoline production was suggested by the speed with which Japan turned to the East Indies for a solution of the dilemma caused by the American embargo on aviation gasoline.

Canada Restricts Oil Fuel Use as War Measure

Sharp restrictions on the use of fuel oil, and bunker and furnace oils which will have the effect of denying such fuels to new installations were adopted this week by the Canadian Oil Controller as a war measure, it was reported to the Department of Commerce at Washington.

The order, effective for a minimum of two years, prohibits refiners and distributors, both wholesale and retail, from selling or distributing any oil for the fueling of any boiler, furnace or other oil-consuming equipment not heretofore fueled with oil or to new installations made after September 16.

The regulations will not apply to the supply of oil for the fueling of any building, structure or undertaking requiring not more than 4000 imperial gallons a year, to supplies for the Canadian government or its departments or to any manufacturer producing goods for the government.

Small Operators Watch Mexican Evaluation Suit

Mexican operators not named in the original expropriation decree of President Cardenas are awaiting with considerable interest the outcome of nine suits filed recently in a Mexico City court protesting government valuation of their properties for expropriation compensation purposes when, they contend, they were not named in the original decree.

The nine companies, which include seven affiliates of Standard Oil Company of New Jersey and two of Seaboard Oil Company, allege furthermore that the valuation of their properties for the above purpose was illegal as determination of the validity of the expropriation decree is a matter which still is pending in the Mexican courts.

Properties of the seven Mexican affiliates of Standard Oil Company of New Jersey were valued at 7,500,000 pesos, or about $1,500,000. The valuation placed on properties of Huasteca Petroleum Company, chief subsidiary of Standard Oil Company of New Jersey in Mexico, were separately evaluated previously at about $3,600,000.

Denmark-Russian Treaty Excludes United States Oil

If the war were over tomorrow, part of what once was a good United States market for petroleum products would be lost, for Russia and Denmark recently signed a trade pact that provides Denmark shall use a certain amount of Russian kerosene and petroleum products for the privilege of exporting to Russia machinery of various types.

Surplus Gasoline Chief Flaw in Oil Picture

[*Continued from page 15*]

mand for lubricants was down 13.1 percent, in reflection of decreases of 5.6 percent in domestic use and 27.5 percent in shipments to other countries.

Because of the relatively higher trends of demand, export and domestic, in the earlier months of this year, as compared with more recent months, figures for the first 7 months were better than those for July. Total demand for United States oils in the first 7 months of 1940 was 4.6 percent (36,000,000 barrels) larger than that in the corresponding months of 1939. Domestic demand was up 9.6 percent, and total exports were down 26 percent, with crude shipments off 24.2 percent and refined product exports down 27.1 percent.

For the 7 months, total demand for gasoline was up 3.5 percent, with domestic use 7.7 percent larger and exports off 45.2 percent. A 9.3 percent gain for kerosene demand resulted from a 16.4 percent increase in domestic demand and a 44 percent decrease in foreign shipments. Light fuel oils showed a 10.9 percent increase in total demand, as a 20.6 percent gain in domestic consumption more than compensated for the 29.9 percent decrease in exports. Heavy fuel oils were used in 5.3 percent larger quantity, as home consumption was up 6.5 percent, while exports were off 13.5 percent. Lubricants showed a 9.6 percent gain for the 7 months, with domestic use 4.9 percent higher and exports 19.4 percent greater.

The effect of the European war on the oil industry of the United States is reflected in an accompanying table, in which shipments are shown for the first 11 months of the war and for July, in comparison with corresponding periods a year earlier.

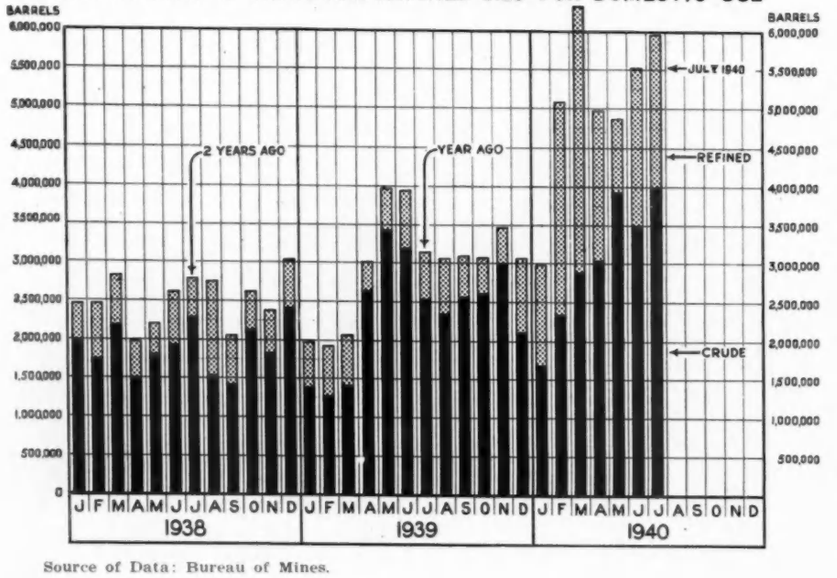
In the first 11 months of the war, all exports of crude and refined oils totaled 142,294,000 barrels, which was 29,000,000 barrels, or 17 percent less than shipments in the like months a year before. Exports of crude, having totaled 55,877,000 barrels, were off 9,000,000 barrels, or 14 percent. Shipments of refined products in the aggregate, having amounted to 86,417,000 barrels, were down 10,000,000 barrels, or 18.6 percent. Gasoline exports were down 6,000,000 barrels, or 36 percent, from 44,155,000 to 28,147,000 barrels. Kerosene shipments were off 2,000,000 barrels, or 26.7 percent, from 7,127,000 to 5,221,000 barrels. Exports of light fuel oils were down 4,500,000 barrels, or 16 percent, from 27,460,000 to 23,048,000 barrels. Heavy fuel oils showed a decrease of 3,500,000 barrels, or 14.5 percent, from 16,851,000 to 14,453,000 barrels. Lubricants were the only major product shipped out in larger quantity than before the war started, exports in the 11 months having totaled 11,997,000 barrels, which amount was 2,775,000 barrels, or 30 percent, greater than that of 9,222,000 barrels for the corresponding months a year earlier.

Oil Imports for Domestic Use Up Sharply

Figures indicate barrels and are from Bureau of Mines.

MONTH	Crude Oil	Refined Products	Total
January:			
Jan., 1939	1,373,000	609,000	1,982,000
Jan., 1940	1,664,000	1,321,000	2,985,000
Percent Change	+21.2	+117.1	+52.0
February:			
Feb., 1939	1,266,000	654,000	1,920,000
Feb., 1940	2,343,000	2,731,000	5,074,000
Percent Change	+85.0	+320.0	+164.0
March:			
Mar., 1939	1,404,000	659,000	2,063,000
Mar., 1940	2,895,000	3,410,000	6,305,000
Percent Change	+106.2	+417.4	+205.6
April:			
April, 1939	2,648,000	366,000	3,014,000
April, 1940	3,041,000	1,948,000	4,989,000
Percent Change	+14.8	+432.0	+65.5
May:			
May, 1939	3,434,000	529,000	3,963,000
May, 1940	3,921,000	934,000	4,855,000
Percent Change	+14.2	+76.5	+22.5
June:			
June, 1939	3,196,000	750,000	3,946,000
June, 1940	3,488,000	2,056,000	5,544,000
Percent Change	+9.1	+174.1	+40.5
July:			
July, 1939	2,539,000	608,000	3,147,000
July, 1940	3,981,000	2,000,000	5,981,000
Percent Change	+56.8	+228.9	+90.0
1st 7 Months:			
1939	15,860,000	4,048,000	19,908,000
1940	21,333,000	14,400,000	35,733,000
Percent Change	+34.5	+255.8	+79.5

U.S. IMPORTS OF CRUDE AND REFINED OILS FOR DOMESTIC USE



Source of Data: Bureau of Mines.

Federal Gasoline Tax Up in August; Pipe Line Drops

Collections from the federal taxes on gasoline and lubricating oils jumped sharply in August as a result of the defense increases of one half cent per gallon which were applied beginning July 1 under the 1940 revenue act, it was reported by the Internal Revenue Bureau.

August collections from the gasoline tax amounted to $33,455,757.75 as compared with $17,595,718.33 in July and $20,163,543.32 in August of last year, while receipts from lubricating oil amounted to $5,072,407.90, compared with $2,272,096.62 in the preceding month and $2,576,281.39 in the same month of 1939, the bureau announced.

Revenue from the tax on pipe-line transportation, despite the increase from 4 to 4½ percent, was at a very low level, only $382,573.45 being collected as against $1,690,853.55 in July and $1,022,073.35 in August, 1939.

With the increased revenue from the defense tax, total collections from gasoline for the first eight months of the current year jumped to $158,811,047 as compared with $137,835,536 in the corresponding period in 1939, while the return from lubricating oils reached $22,474,340 as compared with $19,108,098. Despite the low August revenue, collections from transportation totaled $8,041,477 for the eight-month period, against $7,404,014 last year.

U. S. FIELD OPERATIONS

Illinois

Lower McClosky Added to Albion Producing Horizons

The lower McClosky lime, was added to producing horizons of the Albion field of Edwards County last week with completion of Tuesday Oil Company's Works 2, NE NE SE 13-2s-10e, which flowed 165 barrels in its first hour. The well is bottomed 50 feet lower than any other producer in the pool.

Other operators are planning to immediately deepen some upper McClosky wells. Included in this group are Noah & Morrison, discoverers of the pool, who will deepen Barnes 1, first producer there, NW 24-2s-10e, which is still making 90 barrels daily from pay at 3125-35 feet. It was completed last March. The field is productive in the Waltersburg, Bridgeport and McClosky.

A mile north of the Calvin field in White County, Arrow Drilling Company and Al Walker's F. Hon 1, SE NE NE 5-4s-14w, was waiting on cement after setting casing to seven feet of McClosky pay below 2864 feet. It is regarded as an extension of the Calvin field. Northeast of Hon 1, W. C. McBride's Hon 1, SW SE SW 33-3s-14w, was also waiting on cement after finding McClosky pay.

On the west side of the basin, two Trenton-lime tests were very near anticipated depth of the formation. In the Sandoval field, Marion County, B. E. Martin's Robinson 1, SE SW 4-2n-1e, was drilling at 4143 feet, expecting to begin coring momentarily. The test is an old Devonian producer being deepened from 2984 feet and is the first exploration of the Trenton in the area. The Sandoval field gave the state its first Benoist and first Devonian production. In the Centralia pool, Clinton County, Allen Borton's Storer 1, NE NE 13-1n-1w, was drilling at 3912 feet, about 150 feet above expected depth of the Trenton. There is one producing well in the formation at Centralia.

Possible Link for 2 Marion Fields

The Texas Company was completing Chance 1, an outpost test between the Lake Centralia-Salem and Tonti fields of Marion County, NW SW 4-2n-2e, which recovered McClosky saturation at 2154-65 feet. Plug was being drilled. If the well is successfully completed, it may mean linking the two fields, now separated by slightly more than two miles. For many months, operators have believed a connection eventually would be established since both areas are productive in the same horizons and are similar in nearly all other respects. The Texas Company now has completed 1455 producing wells in the Salem field. The company has 262 Benoist wells, 409 combination Aux Vases and Benoist, 319 Devonian, 382 McClosky, 15 Aux Vases, 67 combination McClosky and St. Louis and one St. Louis well. There are more than 2800 producers in the field which should be completely developed in its present five horizons within the next few months.

The Carter Oil Company has completed its one-thousandth well in the Loudon field, Fayette County, and is rapidly bringing its shallow drilling program in the area to a close. It is expected the company may begin deep exploration of the field in the not too distant future.

Casing has been cemented at the southwest outpost in the new Thompsonville field of Franklin County, Wilhelmi & Gillen's Searles 1, CN½ NW NE 34-7s-4e, after some saturation was recovered in the McClosky. Casing was set at 3142 feet. Several other wells in the pool were near pay depth, although there has been but one completion to date.

Sohio Corporation was extending its pipe line from the Loudon field in Fayette County to serve two Effingham County wells, not yet completions, which should give the county its first production. They are R. Troop's LeCrone 1, NW SW 7-8n-4e, and Ervin et al's Dammerman 1, NW NW SW 18-8n-4e, both of which swabbed oil from the Weiler at about 1550 feet.

A Wabash County wildcat, Burr Lambert's P. J. Kolb 1, SW SE SE 33-1s-12w, has been abandoned at 2647 feet. Cypress sand was topped at 2282 feet, Benoist was missing and McClosky at 2605-20 feet was dry.

Hayes Drilling Company's Gimpel 1, south outpost to the Lancaster field of northern Wabash County, SE NE 9-1n-13w, recovered McClosky saturation and was to set casing following an electric log. The well is a mile south of the town of Lancaster.

Only active operation in Coles County, W. R. Miller's Taylor 1, SW SW NE 33-14n-10e, was drilling below 270 feet. It is slated to test the Devonian lime.

The Carter Oil Company has staked location for a Gallatin County wildcat, R. M. York 1, SE SE SW 33-7s-8e, just southwest of Omaha.

A wildcat in Saline County, 6 miles north of Harrisburg, J. Rowe et al's Summers 1, SW SW SW 18-8s-6e, was abandoned at 3143 feet in St. Louis lime.

Indiana

Posey County Wildcat Pumps 150 Barrels First Day

Northwest of Caborn, Marrs Township, Posey County, Paul Rossi's Ed Egli 2, SE SE NW 19-6s-12w, initialed 150 barrels a day on pump from Cypress sand at 2370-94 feet. The test is about two miles southwest of Gulf Refining Company's Dichhaut 1, a Cypress producer. A mile northeast of the new completion, Gulf Refining Company was drilling at 1900 feet for Wilhelminia Egli 1, SE SE NE 18-6s-12w, below a dry Waltersburg sand.

In Point Township, Posey County, north of Niederst, Basin Drilling Company's Oakland City College 1, SE SE NW 16-8s-14w, Sun Oil Company farmout, set casing to test Aux Vases at 2568-84 feet. Starting at surface elevation of 371 feet, the test topped Menard at 1752 feet, Waltersburg, which carried a show of oil and water, at 1852 feet, Vienna at 1935 feet, Glen Dean at 2037 feet, Golconda at 2153 feet, and Cypress at 2347 feet.

In western Posey County, just north of W. C. McBride's production on the Ed Swander lease, Tide Water Associated Oil Company's Blanche Doll 1, SE SW SE 33-3s-14w, set casing to test Aux Vases saturation at 2786-99 feet, which on a drill-stem test made six joints of oil and drilling mud and no water.

Six miles south and west of Vincennes, Knox County, W. C. McBride's Lewis Heirs 1, NE NE NE 26-2n-11w, was drilling at 1600 feet. It is a southwest offset to the company's McClosky pool opener, the C. C. Winkler 1, now rated at 350 barrels a day.

In the South Rockport gas field of Spencer County, Blosser et al's Ray Harvey 2, S½ SW NW 4-8s-6w, was abandoned at 1026 feet after getting a slight show of oil in the Waltersburg.

Just west of the Griffin field, across the Wabash River in southern Wabash County, Illinois, W. W. Gray's Gray Estate 1-A, NE SW SE 14-3s-14w, was reported to have initialed 130 barrels a day on pump from the Cypress.

A mile west extension attempt for the New Harmony pool on Ribeyre Island, Harmony Township, Posey County, Superior Oil Company's New Harmony Realty Company 28, SW 10-5s-14w, proved dry after setting casing and testing McClosky. It has not been abandoned, however.

In Vigo County, Otter Creek Township, H. N. Oakley's Jesse Simmerton 1, SW SE SE 19-13n-8w, was abandoned at 1650 feet.

In the South Griffin field, Continental Oil Company's Keck 8, SW SW SW 27-3s-14w, initialed 800 barrels a day from the McClosky at 2840-84 feet for the field's heaviest lime producer.

Kentucky

Confirmation Test Staked for New Henderson County Area

In Henderson County, in the new Jett-sand pool south of Hebbardsville, W. E. Hupp et al located King-Pruitt 2, 500 feet southwest of No. 1 which intialed 220 barrels of oil and 120 barrels of water in 24 hours.

Abandoned through Devonian at 1575 feet was an Edmondson County wildcat, 3 miles north of Brownsville, Kingwood Oil Company's Kyroc 1.

In Ohio County, just east of Pattyville, Florida Oil Company set 6-inch casing to test a Jett-sand show. About ¼ mile north of Pattyville, Faucett-Morris et al were spudding Shrove Heirs 1, projected McClosky test.

Oklahoma

Two New Producing Areas Opened in Osage County

Two new producing areas were opened in Osage County. Peters Petroleum Company, Berry Brothers et al's Osage 5, NWc 14-22n-10e, a Mississippi-lime well in the Wildhorse sector, flowed 75 barrels the first hour, 35 barrels the following ½ hour, and was shut in for additional tankage. Pay was topped at 1760 feet, and at 1826 feet the test began flowing naturally. Hole was bottomed at 1827 feet. One-half mile from this pool opener, a few wells are producing from the Bartlesville sand. This producer is rated at 1680 barrels daily on potential, but has a daily allowable of 100 barrels and has been pinched in to this flow.

Peters Petroleum Company and Norbla Drilling Company's Osage 15, SE NW SW 16-22n-9e, has initial Arbuckle-lime production in East Hominy pool, Osage County. Lime was topped at 2636 feet and drilled to 2655 feet. Hole immediately filled 500 feet with oil. Five-inch casing was set at 2640 feet, and operators were bailing down preparatory to acidizing. Bartlesville-sand production lies to the north, east and west.

Hughes County Deep Test

Magnolia Petroleum Company staked location for a Wilcox-sand test at McKoy 1, SWc SE 16-5n-11e, Hughes County. Nearest production is in the Calvin area, 8 miles west. The block covers an estimated 6000 acres. Wilcox sand is anticipated around 6000 to 6500 feet. Companies controlling nearby acreage, with some supporting the test, include Stanolind Oil & Gas Company, Mid-Continent Petroleum Corporation, The Texas Company, Phillips Petroleum Company and The Carter Oil Company. Skelly Oil Company drilled a gasser in CSW SW 4-5n-11e, making some 20,000,000 feet at 3100 feet, but later abandoned. In 1924, E. W. Kimberly drilled in SEc 35-5n-11e to 3405 feet. A number of promising oil shows were penetrated. Some shallow gas production lies in vicinity of the test. Magnolia Petroleum Company will drill with company tools, maintaining a continuous core record from the surface down. Location was being cleared to transport in heavy rotary equipment.

Sun Oil Company was rotating below surface pipe at Boring 1, NE SW NW 9-1s-4w, a contracted 6500-foot wildcat test between the Tussy and Cruse pools, Stephens County. Major oil companies control acreage surrounding this site, supposedly on a prominent seismograph high. Deese sand of Pennsylvanian age is productive around 6000 feet in the Doyle pool, 5 miles northwest of this test.

Stanolind Oil & Gas Company's Grisso 1, NE NW SW 15-9n-6e, extension test for the East Earlsboro pool, Seminole County, flowed 154 barrels of oil and 6 barrels of water in 48 hours while testing through tubing, finally settling down to 86 barrels daily with 500,000 cubic feet of gas. Senora sand was topped at 2893 feet, and 5 3/16-inch casing cemented at 2887 feet. Plugs were drilled to 2924 feet. In the same county, J. T. Miller et al failed to open a new pool at Davis 1, SEc NE 20-10n-8e, 1½ miles northwest of South Cromwell pool, and test was abandoned at 3621 feet in dry Cromwell sand, topped at 3590 feet.

Two new producers were showing in East Cromwell pool, Okfuskee County. Shell Oil Company's Replogle 1, SEc 35-11n-8e, topped Cromwell sand at 3484 feet and drilled to 3517 feet. An electric log was run and pipe set for a test. Reese Drilling Company's Berryman 2, SW NW SW 36-11n-5e, logged pay at 3475-94 feet with pipe cemented at 3477 feet prior to testing. Phillips Petroleum Company completed Replogle 1, SWc SE 2-11n-10e, extending East Okemah pool, Okfuskee County. Second Cromwell sand was logged at 3185-91 feet and shot with 12 quarts. Flow was gauged at 92 barrels in 24 hours through ¼-inch choke.

New Wildcat Activity

Three miles south of Cement pool and 5 miles west of Chickasha gas pool, John Graham et al's Cooke 1, NE SE NE 35-5n-9w, was spudded. Rotary tools were being moved in on the wildcat, in the southeastern corner of Caddo County. Murry & Murry have pits at Ramsey 1, SEc NE 31-5n-8w, 2 miles east of Cooke 1, in Grady County.

Two wildcats were starting northwest of Prague pool, Lincoln County. Mohican Drilling Company and H. L. Berkey staked Hoffman 1, SEc 18-12n-6e, and were erecting rig at Tedford 1, NEc NW 28-12n-6e.

Viersen Oil & Gas Company and Phillips Petroleum Company made location for Leonard 1, SW SE NW 11-13n-7e, 4 miles west of Micawber pool, Okfuskee County.

Irvin Drilling Company was drilling with a machine at Bailey 1, SE NE SE 1-18n-9e, semi-wildcat in the Mannford district of Creek County. Claude Jordan shut down operations at Meriwether 1, NEc 16-18n-17e, north of the McCraken pool, Wagoner County, at 365 feet.

Two wildcats were under way in Kay County: Union National Oil & Gas Company's Long 1, NWc 29-28n-1e, south end of Dilworth pool, and Indian Territory Illuminating Oil Company's Goodson 1, SWc NE 13-28n-3e, 2 miles north of Mervine pool and 4 miles east of Newkirk oil and gas area.

Kansas

Iuka Outpost Indicates One-Mile Northeast Extension

Marylyn Oil Company et al's Jackson 1, CEL NE NW 1-27-13w, a mile northeast of Iuka pool, Pratt County, filled 1800 feet with fluid, 90 percent oil, in 18 hours after drilling plugs in Arbuckle lime at 4316-40 feet. After running tubing and setting packer, the semi-wildcat averaged 2 barrels hourly prior to cleaning out. Acid treatment is expected to bring in a good producer.

Alpine Oil & Royalty Company may open a new Simpson pool 5 miles south of Keesling pool and 2 miles north of Thurber (Wellman) gas pool in Rice County. Fair 1, CSL SE NW 10-21-9w, topped formation at 3380 feet and cored at 3380-90 feet for a good show of oil.

Bornholdt Pool

E. K. Carey completed the largest producer in Bornholdt pool at Knackstedt 3, CS½ NE SW 30-20-5w, flowing 311 barrels in one hour through casing to establish a bottom-hole pressure bomb potential of 83,262 barrels daily. Mississippi lime was topped at 3282 feet. Central Petroleum Company and Springrose Drilling Company's Swanson "B" 4, CE½ SE NW 18-20-5w, flowed 105 barrels the first hour and was completed for a bomb potential of 16,200 barrels daily.

Harrington & Loriaux et al's Belton 1, SEc NE 30-17-4e, wildcat discovery west of Lost Springs pool, Marion County, overcame water trouble by plugging back to 2416 feet in Mississippi lime. Pay was topped at 2398 feet, and best saturation logged at 2412-15 feet. On pumping test the well produced 90 barrels of oil in 8 hours.

Kansas State Corporation Commission has ordered potential tests taken beginning October 3 on all oil wells in the Buhler, Lerado and Lerado (Lansing-Kansas City lime) pools, Reno County; Cunningham pool, Kingman County; Iuka pool, Pratt County; Drach, Jordan, Kipp, Rattlesnake, Richardson, St. John, Sittner-Arbuckle, Sittner, Lansing-Kansas City lime and Sittner South pools of Stafford County.

New Wildcat Activity

J. M. Edwards et al's Detrich 1, CNW SE 21-14-15e, west of Carbondale in Osage County, resumed drilling from an old bottom at 1650 feet, and was rotating below 2200 feet.

H-L-N Oil Company et al's Shields 1, CS½ SE SE 19-17-4e, 3 miles west of Lost Springs pool, Marion County, has tools on ground. Two miles east of Rick pool, Rice County, C. L. Carlock et al's Karber 1, CW½ NW NW 7-19-10w, set surface pipe at 165 feet and was deepening.

E. B. Shawver et al's Nelson 1, SWc 33-28-5e, west of Fox-Bush pool, Butler County, spudded with machine. Ben Grallop et al were drilling at Barnes 1, SW NE SW SW 16-29-4e, south of Douglass pool.

Max Steinbuschel was rotating below 1500 feet at Vilm 1, NWc NE 18-28-1e, semi-wildcat west of Oatville pool in Sedgwick County.

A. D. Allison et al's Short 1, NEc 10-24-11e, south of Seeley-Wick pool and between Gaffney and Hamilton pools, was dry in both Bartlesville sand at 1793-1802 feet and Mississippi lime at 1927-56 feet.

Ben Grallop et al's Wilhite 1, NEc SW 16-27-7e, Butler County, showed water in Mississippi lime at 2705-30 feet. Bartlesville sand was dry at 2630-2645 feet.

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Forest City Basin

Falls City Extended ¾-Mile By a 600-Barrel Well

R. L. Campbell et al extended Falls City pool ¾ mile south at Schock 2, CNW NE 29-1n-16e, flowing 50 barrels hourly after treating Hunton lime at 2336-40 feet with 2000 gallons of acid. Thirty-five tests are active in Nebraska, with concentration principally in Richardson and Nemaha counties. The latest producer is estimated at 600 barrels daily.

Skelly Oil Company completed the eighth producer in Falls City pool at Wallraff 1, CN½ S½ 20-1n-16e, flowing 160 barrels in 24 hours after a 2000-gallon acid treatment. When reacidized with 3000 gallons, flow was stepped up to 290 barrels daily. Hunton lime was topped at 2217 feet and drilled to 2255 feet.

Four wells were staked in the pool. Pawnee Royalty Company made location for Sandrock 1, CW½ SE NW 20-1n-16e and Sandrock 2, CE½ SE NW 20-1n-16e; Harry Harper et al's Sibbernsen 2, CNW NW 20-1n-16e, had tools on ground and Skelly Oil Company had rig at Davisson 2, NE NW NE 20-1n-16e.

North of production 1¼ miles, R. Mc-Intyre et al made location for Hough-Hill 1, CSE SW 6-1n-16e.

E. V. Jackson was drilling with rotary tools at Eickhoff 1, CNE NW 4-2n-16e, 2 miles southeast of Shubert pool, Richardson County, Nebraska.

Missouri Activity

Davis Brothers extended gas production in an area 5 miles east of Parkville gas pool, Platte County, Missouri, at Lampe 1, CSE NW 12-51n-34w, completed for 1,500,000 feet of gas daily. Pay is Warrensburg sand at 491-505 feet. The semi-wildcat is 1 mile west of present production.

O. M. Evans and Skelly Oil Company completed the largest gasser in the recently discovered Polo gas pool, Caldwell County. Leamer 1, CSW NE 31-55n-28w, gauged 9,000,000 feet per day. Sand pay was logged at 361-384 feet, and hole was plugged back from 405 feet. H. L. Scott et al's Dixon 1, CSW SW 29-55n-28w, was testing, and same operators spudded Stonum 1, CNE NE 25-55n-29w.

In Bates County, C. C. Browning spudded Culver 1, SW NE SE 18-39n-29w.

North Texas

Archer County Wildcat Adds Bend as Prospective Horizon

The Bend lime is a new prospective oil producing horizon for Shell Oil Company's Wm. Coleman 1, Lot 3, ATNCL Section 74, eastern Archer County wildcat that is attempting to fulfill 5500-foot depth contract. Entering the Bend at 5009 feet, oil saturation was logged at 5009-21 feet; 5035-37 feet and 5043-53 feet. The test was drilling at 5080 feet late last week. A producer from the Strawn was previously indicated when formation tester was used at 3635-3700 feet. Coleman 1 is 2½ miles northeast of the Chalk Hill field, which produces from the Canyon 2200-foot and Strawn 3600-foot zones. The Bend has accounted for two flowing wells in the Hull-Silk field, with additional tests underway, and 10 flowing wells in the Mankins pool, northwestern Archer County.

Jones Associated Oil Company, Roberts & Lynch's Edwards 1, northeastern Clay County wildcat and on the north flank of the St. Jo-Ringgold conglomerate trend, logged only 148 feet of Bend, topped at 5929 feet, and found nominal saturation and oil stain in Ellenburger at 6077-92 feet. It was drilling dry dolomite at 6130 feet on a 6500-foot contract. Top of Bend is about level with W. H. Gant et al's Edwards 1, Ellenburger failure 3 miles to the southwest, and 80 feet higher than the Hapgood discovery, located 6 miles south by west.

Walter Gant et al's Stine 1, 1½ miles west of the Ringgold deep pool, was drilling at 4470 feet, and is the only pending outpost for the area. Gulf Oil Corporation's Spring-Worsham 2 flowed 239 barrels oil by heads in 12 hours from Bend conglomerate at 5700 feet, and continued to make occasional heads in deepening to 5793 feet with tools. No water has been encountered. British-American Oil Producing Company's Martin 2, north offset, has recemented casing by the squeeze method after failing to exclude water in plugging back to 5720 feet from Ellenburger at 5860-5965 feet.

Wildcat Shut in for Storage

Tom Owens and Larry Hults' Lee Tucker 1, western Montague County wildcat, shut in for pipe line connection after filling 2000 barrels of lease storage. The well flowed 293 barrels of 44-gravity oil on the last 12-hour gauge through casing from lime at 6016-50 feet in Bend, topped at 6010 feet. Magnolia Pipe Line Company has authorized a short 4-inch lateral line from its trunk line to handle the allowable quota of the area. More drilling is in prospect for the area now that a market is assured for the oil.

Britt Cranfill and C. E. Rodgers' McKay 1, northwestern Wise County prospective Bend strike, was attempting to recover five stands of drill pipe lost while drilling at 6067 feet, possibly in the Simpson series. The results of a drill-stem test at 5852-75 feet in Bend, topped at 5585 feet, points to the probable completion of an oil producer when tested via casing. Walter Gant et al's Laird 1, situated 2¾ miles north, remained idle at 6651 feet in Simpson, with 7-inch pipe cemented at 6641 feet. An oil producer from the Bend at 5848-5858 feet is virtually assured, while the Strawn is likewise a potential oil zone.

Magnolia Petroleum Company's Gilbert 3, north edge of the Bonita field, filled 300 feet with oil and 1500 feet with salt water following casing perforations at 5560-69 feet. This zone has cemented off, and perforations will be made at higher levels. The Ellenburger at 5977-6003 feet carried water.

Rig repairs caused a temporary shutdown for Seitz-Comegys & Seitz, Inc.'s Harris 1, eastern Montague County wildcat on the Hardy geophysical prospect, after drilling to 5140 feet. Contract calls for a 6000-foot test, but it may be carried deeper if necessary to test the Bend series. Considerable interest is centered upon this test because of its position in the Fort Worth Syncline.

Amerada Petroleum Corporation's Parker 1, a mile southeast of its Fargo pool, northwestern Wilbarger County, discovery, failed to encounter production in the Cisco and Canyon zones, but has cemented 5½-inch pipe at 4407 feet to acidize saturation at 4437-55 feet in Strawn, topped at 4385 feet, or 166 feet low on subsea correlation. Hole is bottomed at 4476 feet. Parker 1 entered the Canyon at 3372 feet, or 48 feet low to the discovery, which has remained shut in since plugging back from 6717 feet for completion in Cisco sand at 3230-52 feet. Goodpasture 1-A, NWc H&TC Section 36, Block 15, has been authorized by the company as a south offset to the producer.

Allee Pool Wells Gauged

Official gauges have been given the three oil producers in the Allee pool, Foard County, with the Thomason Oil & Royalty Company et al's Gamble 1, first to show oil in the Canyon, flowing 39 barrels of oil and 144 barrels of water with 4,500,000 feet of gas through ¾-inch choke. Production is from lime at 2345-70 feet in Canyon, topped at 2170 feet. Gamble 2 pumped 65 barrels oil and equal volume of water from pay at 2353-60 feet, and Foster Petroleum Corporation's Allee 2 flowed 127 barrels oil and 5,500,000 feet gas via ¾-inch choke after using 1000 gallons acid at 2357-72 feet. Each were assigned an allowable of 17 barrels daily.

Bend lime strike for Jack County is promised by Continental Oil Company's Robertson 1, M. J. Swan Survey A-1650, 6 miles southeast of Bryson, in registering gas flow and show of high-gravity oil when tester was used at 4645-62 feet. Oil show was logged in conglomerate at 4651-60 feet and sandy-lime at 4660-62 feet. Machine was set-up late last week to drill plugs from 7-inch at 4650 feet. The company holds lease on a 1950-acre block, with a number of lease expirations due in 1941. Robertson 1 is 2 miles south of the Mathis pool, which produces from the Strawn, and 3¾ miles north of Shell Oil Company's J. R. Williams 1, which currently flows 12 barrels oil daily from pay at 4562-4614 feet. The latter began producing in February, 1922, and flowed 75,000 barrels the first 7½ years. Rathke Oil Company and R. C. Parker's H. L. Mosely 1, also a wildcat, passed up oil and gas show at 3700-06 feet, and was drilling at 4140 feet in shale.

In Hardeman County, Paul Gilbert et al's Robert Weekley 1, H&TC Section 85, Block 16, tested small show of oil and gas with water after perforating casing at 3762-87 feet. String of 5½-inch pipe was cemented at 3914 feet, or 4 feet off bottom.

West Texas

Wasson Field Extension Has Oil at Greater Depth

Discovery of an oil horizon near the 6600-foot level in the Gaines County portion of the Wasson field, largest producing area in West Texas, provides a new objective for operators in the north portion of the Permian Basin. The strike was made by Amon G. Carter's A. L. Wasson 4-D, NWc SE PSL Section 50, Block AX, which tested 3 barrels of green oil hourly on swabbing operations after 3-stage treatment with 6500 gallons of acid at 6610 feet. Tubing was set near bottom with packer near the 6300-foot level because of open hole below 7-inch casing seat at 5189 feet. No appreciable amount of pressure was applied in using the acid for fear of dislodging the packer.

Carter has acquired considerable royalty in the area since the well encountered the new lime zone about 1500 feet below the regular Permian oil and gas horizon. Wasson 4-D is two miles northeast of the Wasson field discovery, which was drilled by Carter in 1937 on acreage farmed out by Continental Oil Company. This first deep project for the area failed to encounter any appreciable volume of water below the regular Permian oil level, having swabbed 10 barrels hourly at 5272 feet with an elevation of 3564 feet. Geological information has not been released on the new strike, although the color of the oil indicates that the pay may be pre-Permian in age. On the other hand it is most likely to be Basal Permian, and equivalent to the Tubbs zone in the Sand Hills field, Crane County. Brown lime was logged by Wasson 4-D near the 3860-foot level, and top of San Andreas solid lime near 4280 feet. This portion of the Wasson structure is abnormally high, and this condition was taken into consideration by Carter in making the deep test along with the fact that his holdings are nearby.

Will Defer More Deep Tests

The proving of the Carter lime at Wasson will not be followed immediately by other deep tests in the area. Considerable development in the regular pay is pending, while the field is only partially defined on the north, east and west. Extremely hard lime formation was logged by Wasson 4-D in deepening, and a bonus will likely be demanded by drilling contractors in sinking future tests. However, the discovery affords new producing possibilities for the upper basin region, and revives prospects of structurally high areas that failed to produce in the regular Permian. Wasson field wells that have landed 7-inch pipe for the oil string can be deepened, if later development proves the deep zone for attractive production.

Southwest extension for the Duggan field, Cochran County, will be sought by Ray Rhodes and Atlantic Refining Company in starting operations on Slaughter 1, C NE Tract 4, League 89, Lipscomb County School Lands. Honolulu Oil Corporation farmed out a portion of its block for a test.

Gulf Oil Corporation's Waddell 13, C NW PSL Section 29, Block B-26, northeast outpost for the Sand Hills field, Crane County, flowed 915 barrels of 37-gravity oil natural in 24 hours in extending the field ½ mile east from Lower Permian pay at 4585 feet. The well flowed 56¾ barrels the last hour as the gas volume declined to 17,280,000 feet daily.

Having failed to recover lost section of drill pipe, Gulf Oil Corporation's Wristen 5, prospective Ordovician strike for the Shipley pool, Ward County, was drilling by junk after plugging back from 9187 feet to 8687 feet.

Phillips Petroleum Company's Cowden-Embar 1, Southwestern Andrews County wildcat, was awaiting nitro shot after deepening to 4335 feet. An estimated flow of 3,000,000 feet of gas was developed after using 2500 gallons of acid at 4299 feet.

Fourth Well at Soma

Another prolific oil well with an excessive gas yield has been recorded by the Soma shallow pool, Western Crockett County, making a total of 4 oil producers and a dry gasser for the area. J. S. Pittman and B. R. Cox's Noelke 1, NWc SE HE&WT Section 30, southeast offset to the discovery, flowed in excess of 150 barrels of oil per hour with gas volume estimated at 10,000,000 feet daily at 1146 feet. It penetrated 1 foot of the Soma sand member of the Yates section, using machine for drilling. Seven-inch pipe was cemented at 1100 feet, with an elevation of 2438 feet. Official gauge has been deferred pending installation of tankage and separator.

J. K. Hughes Oil Company's Shannon 1, Section 28, Vowell-Willon Survey, partially defined production to the north of the Soma pool, and was abandoned at 2502 feet in Permian lime, topped at 2417 feet with an elevation of 2863 feet. Numerous shows of oil and gas were logged in the Yates section, topped at 1415 feet, but the Soma sand at 1532 feet proved dry. No water was logged in the Yates sand, or lime. It is 2½ miles north by east of the Soma discovery and 1½ miles north of a dry gasser.

The original oil producer for Ector County drilled by The Texas Company and Josh Cosden on the Connell tract, Judkins-Penwell field, failed to respond to re-working and was plugged September 23. The county has recorded in excess of 2300 producers since this well was completed in 1926. Forest Development Corporation's Bradley 1, wildcat, logged top of Yates sand at 2870 feet with an elevation of 3041 feet, and was drilling at 3515 feet, while the company's Moss 1-H, semi-wildcat, was drilling at 3770 feet. The latter logged top of Yates sand at 2790 feet with an elevation of 2946 feet.

Northwest extension for the Waples-Platter pool, Yoakum County, will be sought by Forest Development Corporation with the spudding of Whisenant-Shell 1, C SE SE Section 553, Block D.

Magnolia Petroleum Company's Sandidge 1, Dawson County wildcat and 3 miles east by south of the Cedar Lake field, yielded sulphur water from broken saturation and porosity at 4925-4957 feet, and was abandoned after deepening to 5345 feet. Top of brown lime and solid lime was logged about 340 feet low on subsea correlation with the nearest Cedar Lake production, while first porosity was only 169 feet low.

Initial rating of 233 barrels of oil on pump was established by Texas Pacific Coal & Oil Company's Eddleman 1, Upton County semi-wildcat and 1¾ miles south by east of the McClintic sector of the Gulf-McElroy field. Broken pay at 2945-3250 feet was shot with 900 quarts of nitro. The company has started Eddleman 2, Account 2, as a southeast offset.

Good Well in Eastland

C. L. Mahoney et al's Jackson 1, offsetting a producer in South Carbon pool, Eastland County, responded to 300-quart nitro shot in Caddo lime at 2543-2641 feet, flowing 75 barrels of 41-gravity oil per hour, and is credited with having filled 500 barrels of tankage. It is the largest completion for the county in recent years. Two tests have been authorized by Mahoney et al, while Dobbs Oil Corporation, which discovered the pool in 1939, is to drill a north offset to the new completion.

Two northern Jones County semi-wildcats are showing for oil producers in the Palo Pinto lime. King Oil Company's Olson 1, NWc NE Section 189, mile north of production in the Avoca pool, flows by heads from broken saturation at 3209-37 feet. Top of Palo Pinto was called at 3204 feet with an elevation of 1512 feet, making it slightly higher than nearest producers. An intermediate test will be required to ascertain whether Olson 1 is on a separate production trend from Avoca. J. C. Hunter and Iron Mountain Oil Company's Strand 1, SWc NE H&TC Section 5, Block 5, ½ mile south of an abandoned producer in Haskell County, is rated as a 50-barrel pumper from saturation at 3426-28 feet in Palo Pinto, topped at 3418 feet with an elevation of 1545 feet. Farris & Fikes Guitar 17, first deep test for the Guitar pool, was drilling at 3560 feet. No shows have been recorded in the canyon series.

Shell Oil Company's Patterson 1, western Stonewall County wildcat, passed up nominal oil and gas show at 6440-50 feet, and was drilling chert at 6500 feet.

Texas Permits

The Texas Railroad Commission last week authorized permits for drilling 235 wells in Texas, representing an increase of 34 over the week before.

A total of 45 permits were approved in the East Texas field with 35 in Upshur, 7 in Gregg and 3 in Rusk County, while 13 locations were reported from the remaining section of the East Central Texas area.

First place in the state was held by the North Texas district, reporting 50 locations, including 11 in Wichita County. Operators in the Panhandle were allowed 8 wells.

The commission authorized permits for 43 wells in West Texas, including 11 in Yoakum County, and producers in West Central Texas staked 15 locations.

There were 40 applications approved in Southwest Texas, and 21 were reported from the Gulf Coast area.

Southwest Texas

New Frio-Sand Field Seems Probable in Jim Wells County

A Frio-sand oil field in Jim Wells County, 4 miles southeast of Orange Grove, was considered possible when Henshaw Brothers et al's Grossman encountered a 3-foot sand section in a zone between 5130-35 feet. Drill-stem test of the section recovered 1300 feet of oil and mud under 60 pounds pressure in 10 minutes. The hole was drilled to 5750 feet and was awaiting orders, apparently to be drilled to 6000-foot contract. The wildcat, drilled as a closed operation, is in Block 2, D, S, & G Subdivision, Casa Blanca Grant.

Anderson-Prichard Oil Corporation's discovery of Alice-sand production in the Wade City field, Jim Wells County, had its production delayed a third time as salt water broke in. A test had been made through perforations at 4908-12 feet, the well flowing pipe-line oil for 56 hours, then turning 85 percent to salt water. During the early part of the test, output was on the basis of 284.1 barrels of 32-gravity crude per day through 3/16-inch choke under 600 pounds tubing and 825 pounds casing pressures.

Titanic Oil Company of Houston will start a test 1320 feet south of Edwards 2 which was completed through perforations at 5036-41 feet to open the Deternal field in Victoria County. The latter made an estimated 1,500,000 cubic feet of gas per day through ⅛-inch choke under 1550 pounds tubing and 1625 pounds casing pressures. The well had been drilled by Commerce Oil Company and John Mayo to 6264 feet, abandoned, then taken over by the new concern for completion. The well is in Tract D, subdivision of the Edwards Ranch, Nira Survey, and 7 miles north of the McFaddin field in Victoria County.

Glen McCarthy's Urban 1, Manchola Grant, 1 mile southeast of Coletto Creek production in Victoria County, drilled to 4951 feet, set casing at 3000 feet and was being tested through perforations in one of the shallow Catahoula sands.

In the extreme northeast corner of Lolita townsite, and ½ mile west of the field bearing that name in Jackson County, Shield & Rutherford were testing the 5900-foot sand in Mitchell 1. The test had shown for a producer in the sand when first cored. It then went through the 6300-foot level, but failed to find production. It was carried to 6500 feet and plugged back.

Wilcox Producer in Live Oak

South Texas Wilcox sand play reached its peak of present exploration last week with the addition of the fourth producing area in this zone. Live Oak County, deep in the lower trend, paid off with a producer from 8387 feet in Edwin M. Jones' George West 1-B, 2½ miles west of George West. The well flowed 71 barrels of 47.4-gravity oil with a 4180/1 gas/oil ratio on a 24-hour test through ⅛-inch choke. The well made no water on the test, although there is considerable water in the hole.

The wildcat blew out when it drilled into a sand section at the above level. The well finally was controlled, but drill pipe was cemented in the hole to prevent it from getting away. The 4½-inch stem was raised to 8286 feet, one foot off bottom, in order that that much of the formation could be tested. Production is coming through the open pipe, choked at the top with a ⅛-inch outlet. Tubing will be run for final completion.

Late in the week, tests were being made as to bottom-hole pressure and other conditions. Upon the completion of this work, the well will be placed into the tanks for regular production and a definite value determination. Another test is expected to be immediately drilled. Location is Lot 107, Subdivision A, Fant Survey, and is on a 49,000-acre ranch under lease to Jones; his block covers approximately 56,000 acres.

The prospect was worked by seismograph, planetable and subsurface correlations. There had been nearly a score of Pettus-sand failures drilled on the ranch. One previous 10,000-foot Wilcox sand test had been drilled on the same lease by this operator, it having shows of oil and gas.

Two other sands in the lower portion of the hole had oil and gas showings, both being in the Carrizo section. One was at 7900 feet and another at 8100 feet. One sand section was approximately 40 feet thick.

DeWitt County apparently was receiving a second producing level in W. E. Conwell 1, 1 miles northeast of the discovery and only other Wilcox sand producer in the Thomaston field. The test had been carried to 9952 feet and casing was set on bottom. The well encountered a sand at 9795-7850 feet and perforations were made for a production test at this level. The discovery well, a distillate producer, is in a 7800-foot sand about 100 feet below the top of the Wilcox formation. This is the deepest sand thus far found in the Wilcox sand on the down-dip trend.

Webb County's deep Wilcox sand test on the Bruni structure has been abandoned. Tide Water Associated Oil Company's A. M. Bruni 8 went to 10,295 feet, and showed only mud on a production test below the protection string set at 8838 feet. A previous well drilled on the structure was abandoned just short of 9000 feet when it attempted to blow out and stuck drill stem. The blowout apparently was from the 5400-foot Mount Selman sand.

Shell Oil Company has commenced a fourth test on the Sheridan structure in Colorado County, where the company has completed three producers in the 8100-foot Wilcox sand.

Five carloads of oil were shipped from Dull Switch last week to mark the beginning of regular production from the new Washburn field, LaSalle County, opened by a producer at 4860-4867 feet in the Wilcox zone. The test was H. R. Cullen's Washburn 1, first producer in the county.

Manila sand (Cockfield) has paid off in another Jim Hogg County wildcat, this one being 3 miles east of the old Henne, Winch and Farris area. Guy A. Davis et al's Holbein (Marrs McLean) 1, topped the sand section at 2795 feet which continued to 2811 feet. The hole was sunk to its contract depth of 2850 feet and casing landed around that depth. On a drill-stem test at 2795-2805 feet, the recovery was 4½ joints of mud cut with gas and 2 pounds pressure in 20 minutes. Another test was made at 2805-11 feet, the recovery being 95 feet of oil and some mud under 5 pounds working pressure in 20 minutes. An electric log indicated almost solid sand in the 16-foot section.

The wildcat, drilled with a Goldrus Drilling Company rig, is in Section 4 and in Lot 35 of the Holbein subdivision. It is on a 2000-acre block held by Davis and associates.

An extension of several thousand feet to the southwest in the Government Wells sand is foreseen in the Hoffman field of Duval County. Gilcrease Oil Company's Salizar 1-B, in the C. Alanis Survey No. 3, cored the sand at 2616-34 feet. Casing was set for completion.

One mile west of Casa Blanca field in Duval County, Magnolia Petroleum Company's Duval County Ranch Company in Survey 289, cored the field sand at 994-1006 feet and drill-stem tests indicated a gas producer. It was coring below 1980 feet at last reports.

Hidalgo County

Controlled after blowing out from a Frio sand at 3132-38 feet, Royal Oil & Gas Company is expected to recomplete Yturria 1, discovery of a new pool one mile east of the present Samfordyce area in Hidalgo County. The well had blown out from this level, but was killed and gas was being bled off at the rate of 4,000,000 cubic feet per day late in the week. Commercial mud was being pumped in to prevent the sands from being charged. It is expected that casing will be set and the hole finally turned into a commercial gas producer. Another well likely would be drilled to test the structure's oil possibilities.

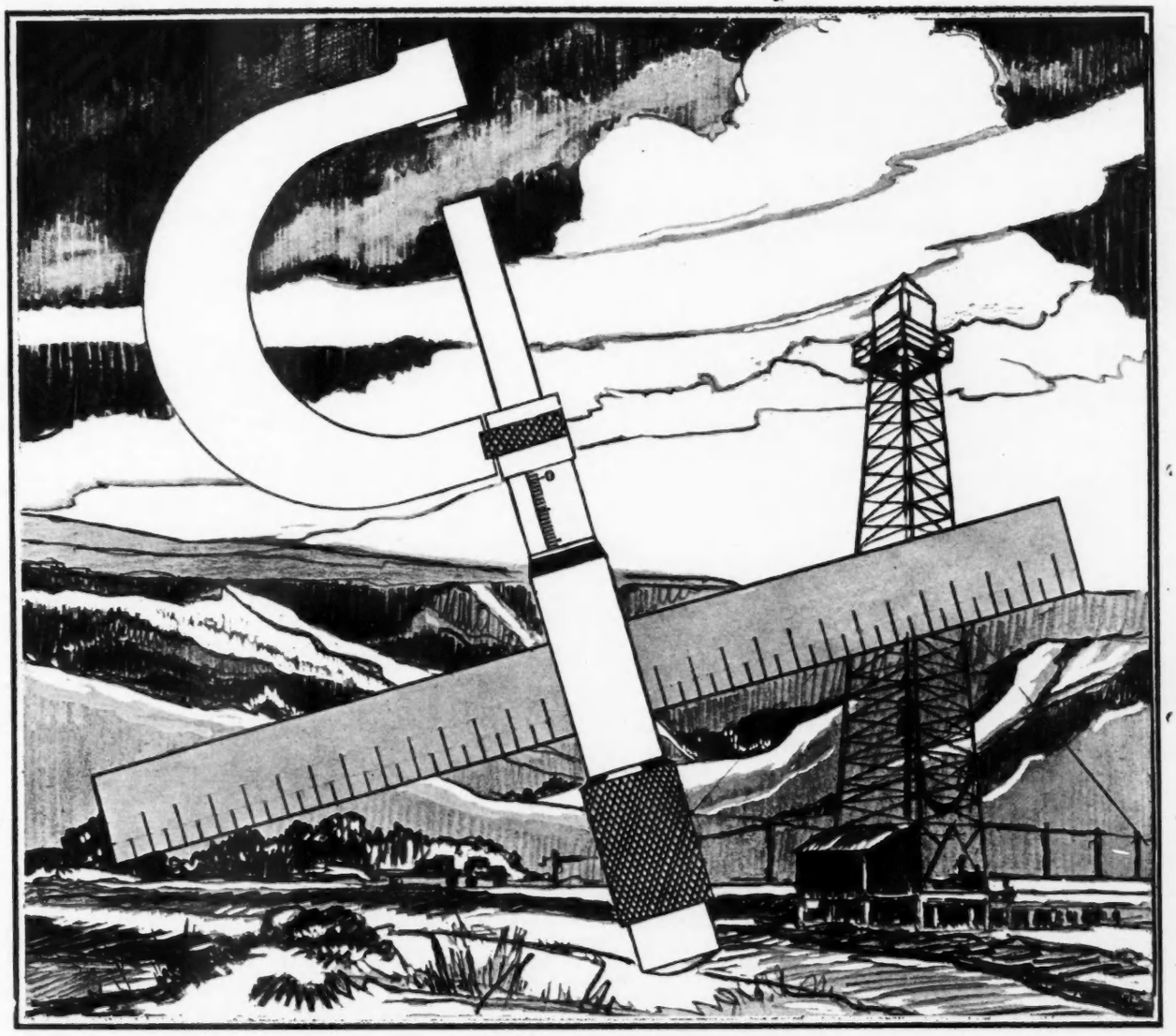
The discovery is in Lot 4, Royal Oil & Gas Company Subdivision of a 503-acre tract, Porcion 43.

Humble Oil & Refining Company continues to expand its Kelsey field reserve in Brooks County by completions in the 4700-foot sand at the extreme north end of the McGill ranch. Sun Oil Company and Magnolia Petroleum Company will be brought into the play by wells now being projected in the extension area.

In Starr County, North Rincon area, Sun Oil Company is completing an outpost nearly two miles northeast of the lone discovery producer. The company's Saenz-State 1, Section 80, was flowing into the pits from perforations at 5502-5505 feet, packer at 5490 feet, and was making 7 barrels of fluid per hour through ¼-inch choke. The fluid was 95 percent salt water and the remainder oil. Following a squeeze job, another test will be made. Several sands showed for production.

Offsetting the discovery on the east, The Texas Company is below 5350 feet and drilling, while Harvey et al's offset to the south is testing a sand at 4103-4118 feet, which showed oil. The well is to be carried ahead regardless of the outcome of the test.

W. R. Davis & Company's Slick 17-A, 4600 feet southeast of any oil production in the Rincon field, was ready for completion in a sand at 3962-73 feet. It had been drilled to 5248 feet, then



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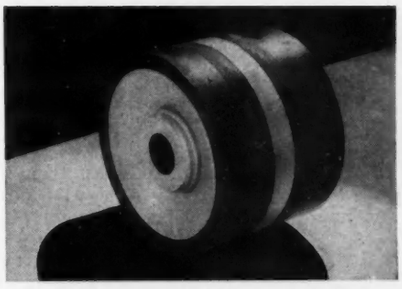

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plugged back, setting casing at 4420 feet.

A one-mile south extension and discovery of a second sand for the Boyle field, also in Starr County, was definitely proved when Borsodi Oil Company's Chappa 1, Share 2-A, Porcion 92, was finished through perforations at 3167-75 feet. It flowed 86 barrels of 47.7-gravity oil per day under a gas/oil ratio of 1200/1. The flow was through ⅛-inch choke with 590 pounds tubing and 1135 pounds casing pressures.

Deals Under Way for More South Texas Recycling Plants

Several new recycling plants are assured for South Texas as deals are underway for their operations. Jim Wells, Brooks, Nueces, Duval and Hidalgo counties will be affected by the developments.

A deal is being completed in which John Sheerin, Robert T. Wilson and Clyde Alexander, and associated interests will build a recycling plant in the LaGloria field on the Jim Wells-Brooks County line. Details of the project have not been announced. Magnolia Petroleum Company, Ohio Oil Company and others, owners of the leases, have contracted to turn 4700 acres in a unitized block to the syndicate. More than half of the royalty owners in the area have agreed to the unitization, under which royalty and lease owners will receive half of the recovery through the plant if the withdrawal is 1 gallon per 1000 cubic feet of gas. Over that amount, the payment will be on the 55 percent basis. Oil rights will be reserved to the lease and royalty owners.

The contract requires the drilling of up to 20 wells to supply the plant with 150,000,000 cubic feet of gas per day.

LaGloria was discovered by Magnolia Petroleum Company last year with a Frio-sand distillate producer at 6560-6570 feet. Several other distillate sands were developed, to be followed by a 7200-foot oil sand. These operations have established a field of large proportions, which likely will receive a heavy drilling program.

Standard Oil Company of Texas, discoverer of the Sejita field in Duval County, is negotiating with the lease and royalty holders to unitize preparatory to constructing a recycling plant. Holders of interests in the field would participate on a percentage basis in the recovery of distillate. The company would build a plant with a capacity of about 150,000,000 cubic feet per day and would drill all wells required to provide it with gas. The oil would be retained by the present lease and royalty holders and would not be subject to the unit proposition. Contracts are being circulated among the potential participants in the project.

Operations are tentatively scheduled to be started October 15 at the recycling plant of W. R. Davis, Inc., in the east Alice field of Jim Wells County. Engineers have been busy cleaning several hundred tons of mud and water out of the plant, deposited by a wild gasser just north of the plant whose escaping gas charged the water well serving the recycling unit. Engineers, unable to kill the flow from the gasser, installed a master gate and are permitting the gas to escape. This arrangement relieved the pressure on the water well and prevented further damage to the plant.

Construction is underway in the San Salvador field on a recycling plant by Gulf States Oil Corporation. Foundations for the system were poured last week. A 70,000-pound condenser to be used in the plant is on the ground.

George P. Shelton has been authorized to recycle gas in the Agua Dulce field, Nueces County, returning the residue to the horizon from which it was produced.

Rule Thompson Cannot Hold State and Army Jobs

Ernest O. Thompson will automatically resign as a member of the Texas Railroad Commission if he accepts a commission in the United States Army on December 4, Attorney General Gerald C. Mann declared in an opinion last week.

Thompson is a lieutenant colonel in the Texas National Guard, part of which was called to duty for mid-November and the balance for December 4. His resignation from the commission will make the vacancy subject to appointment by the governor.

Mann based this ruling on a constitutional provision that no state official may hold a position of trust in the United States Army. The ruling will apply not only to elected officials of the state, but to others classified as officials who are appointed by the governor.

State employes, as distinguished from officials, may continue to hold office. Officials who enlist in the Army as privates may hold their jobs, but when and if they accept commissions, they have automatically resigned.

Commissioner Thompson declined to comment on the ruling.

Stribling Mississippian Rules

Eighty-acre spacing for wells drilled to the Mississippian formation in the Stribling field, Stephens County, is provided in a new Texas Railroad Commission order.

The rule provides for 40-acre units with the wells drilled 466 feet from lease lines and at least 933 feet apart. The production is to be distributed on acreage and per-well, with 50 percent allocated on each factor.

If a lease is to be drilled on the 80-acre plan, the operator must submit a certified plat showing the unit is not more than twice as long as it is wide. Rules call for 100 feet of surface casing cemented to the surface, and 125 sacks of cement on the producing string.

Gas Ridge Hearing

Two-acre spacing for wells in the Gas Ridge field, Bexar County, was requested at a recent Texas Railroad Commission hearing by Southwest Drilling Company. Opposition was voiced by Gas Ridge, Inc. and Roger Putnam, who asked for five-acre spacing.

Testimony was presented to show that where the wells had been drilled on a five-acre unit in similar fields, the total production per acre was approximately the same when wells were pumped at capacity as it was in those fields which were spaced more closely.

Postpone Hearing on Proposed Texas Deviation Rule

The Texas Railroad Commission has postponed until the next statewide hearing the application of Arkansas Fuel Oil Company for a state deviation rule. When the hearing was called last week, several major company representatives asked for the delay because they said they were unprepared to present evidence and offer a satisfactory proposal for the rule.

Attorneys for the Arkansas Fuel Oil Company, who had requested the hearing, had no prepared rule ready, and suggested that the rule now in effect in Arkansas might be a satisfactory one for Texas. Questioned by Railroad Commissioner Ernest O. Thompson, a spokesman for the company said that the cause for the request arose from a well which was being drilled as an offset to the company's East Texas property. This well, it was believed, was being deviated toward the Arkansas property line in an effort to obtain a producer where a dry hole had been drilled.

Thompson declined to proceed with the hearing after the other operators had asked for a delay, and pointed out that a statewide rule might require heavy expenditure of money, and that he was not inclined to consider the request until the evidence had been prepared thoroughly.

Attorneys for some of the other companies suggested that Arkansas Fuel Oil Company could bring a suit in the courts against the offending operator of which it complained.

Request Back Copies of Oil Field Engineering

The College of Petroleum Engineering at A. & M. College of Texas is anxious to obtain the following issues of "Oil Field Engineering":

Volume 1, 1926, through August, 1927, starting with Volume 1, Number 1; October, 1927, through April, 1928; July, September and October, 1928, and January, 1929.

Any person having any one or more of the above copies who is interested in selling them to the school may communicate with Professor H. E. Gross, Petroleum Engineering Department, College Station, Texas.

Penwell Pool Hearing

A minimum unit allowance of 20 barrels for the Penwell pool, Ector County, was requested by operators at a hearing before the Texas Railroad Commission last week. The field is now prorated on potential and acreage, with 75 percent on the former and 25 percent on the latter factor.

The acreage allowable is 8 barrels per well on some units where there are two or three wells. These properties in some cases were drilled before the promulgation of the rules.

H. B. Fuqua, representing Gulf Oil Corporation, pointed out that potentials now in use were taken in 1930 and 1931 and suggested that they might be taken again.

Landreth Production Corporation, which requested the hearing, favored continuation of the present plan of proration, but asked for the 20 barrels minimum allowance for each unit.

Texas Gulf Coast

New Fields for San Jacinto And Brazoria Counties

Two new fields were opened to bring the total of 1940 discoveries in the Texas Upper Coast area to 14, four more than were found in 1939. On the Sheperd prospect, Wm. Hay Survey, eastern San Jacinto County, Harrison & Abercrombie brought in Sun Oil Company Fee 1 to mark another Wilcox success and establish the first production for the county. Flow through perforations in the 8215-77-foot zone was estimated at 100 to 150 barrels of 57-gravity amber distillate daily through 12/64-inch choke, with shut-in pressure 2800 pounds, tubing pressure 1875 pounds. Exact gauge could not be taken due to frozen connections. Operators were changing connections, and possibly will have to install heater before flow test is made. The strike is not expected to precipitate any immediate activity as operators hold a 20,000-acre block. The prospect was found in 1933 by Shell Oil Company and later worked by Atlantic Production Company, Gulf Oil Corporation, Amerada Petroleum Corporation, and Atlatl Royalty Company. The discovery was the tenth test of the structure and the fourth test of the Wilcox. Acreage near the well is held by The Texas Company, Sun Oil Company, and Texas Osage Oil Company.

Low Gravity Below 10,000 Feet

At Bailey's Prairie, 10 miles southwest of Angleton, central Brazoria County, Glenn McCarthy established the first low-gravity oil production below 10,000 feet, bringing in Munson 1, S. Carter Survey, 11,860-foot record depth test, at 11,345-349 feet for an estimated 10½ barrels of 24-gravity crude hourly, with mud and wash water, through 11/64-inch choke. Tubing pressure was rising from 700 pounds, with casing sealed. The structure was found by Humble Oil & Refining Company, Atlantic Refining Company, and Gulf Oil Corporation with reflection seismograph. McCarthy's discovery was the first test. The wildcat established new upper coastal records for depth, 11,860 feet; length of 5½-inch casing string 11,481 feet, and with the exception of several 38-gravity wells in the 10,050-10,100-foot zone on the east side of Old Ocean, the first true oil production below 10,000 feet. Gulf Oil Corporation is a major leaseholder in the area.

Alta Loma Confirmed

Stanolind Oil & Gas Company confirmed Alta Loma, southwestern Galveston County, by completing Hulen 2, A. Brigham Survey, for 545 barrels in 11 hours through ½-inch choke, from the discovery sand at 9170-80 feet. Tubing pressure was 2250 pounds; casing pressure was 2350 pounds. The test, 2640 feet west of the discovery, was drilled past 11,000 feet, testing salt water at 9820-30 feet and 9300 feet. It was reported to have cored 40-foot net section in the Frio at 9160 feet.

Mrs. Joyce Richardson and Christian-Carpenter Drilling Company completed the third well at Ogburn, northwestern Harris County 1940 discovery, testing Rorick 1, 1¾ miles southwest of the discovery, for an estimated 150 barrels of 48-gravity distillate daily through 9/64-inch bottom choke and ¼-inch top choke from 6915-29 feet, with tubing pressure 2000 pounds and casing pressure 2600 pounds. This is the second major extension for the field, the first being W. L. Goldston's Josey 1, 6650-foot sand discovery—2500 feet northwest of the field discovery. Two new locations and rumors of two others preceded the completion. Richardson and Christian-Carpenter Drilling Company will drill Backin 1 on a block contributed by Superior Oil Company to support the discovery well, and Pan-American Production Company's Backen 1, both wells being offsets. Pan-American Production Company was reported ready to drill Backen 2 on the same tract, while another test was rumored on the W. L. Goldston Josey lease.

Galveston Bay activity progressed without delay. Humble Oil & Refining Company's State A-2, confirmation test at Red Fish Reef, was drilling at 9821 feet in shale, 1000 feet below the discovery level; State A-3 was below 3721 feet in shale; State B-1, wildcat 4 miles to the west of Red Fish Reef, was below 9502 feet in shale, and State C-1,

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Fishers Reef area, was below 9052 feet in sand and shale. Hall Jordan Oil Company's State 1-72, on the Gulf of Mexico prospect, near Sabine Pass, Jefferson County, was below 7600 feet.

Humble Oil & Refining Company's Hardy Y-7, Wilcox test on the north side of Raccoon Bend field, Austin County, was delayed by stuck drill pipe, but recovered and was drilling past 7465 feet, with 7500 feet the projected objective. Woodley 17-Y, deep Wilcox test in the field, was into the Wilcox below 8589 feet.

Louisiana Gulf Coast

District Depth Record Broken, But Hole Is Dry

Coastal Louisiana depth records were broken by Superior Oil Company's State 3, wildcat on the Calcasieu Lake salt dome, Cameron Parish. The test was carried to 13,579 feet, where electric log was run and the hole abandoned. This well was 170 feet deeper than the previous record, Fohs Oil Company's State 1, Bay Baptiste prospect, Terrebonne Parish, and the fifth well deeper than 13,000 feet in the entire Gulf Coast, the record being held by Union Producing Company's Brown 1, 13,728-foot hole at Agua Dulce, Nueces County, Texas. The Lake Calcasieu wildcat yielded side-wall samples at 9450-60 and 9485-95 feet with gas odor and oil cut, and an oil sand at 8560-70 feet, with all tests recovering salt water.

Superior Oil Company opened a new Miocene flank sand at Bayou Blue, Iberville Parish, completing Schwing 4 at 4652-60 feet for 165 barrels of 30-gravity oil daily through ⅛-inch choke, with tubing pressure 475 pounds, casing pressure 600 pounds. The new section, not expected to be particularly extensive in area, is well above the regular 5000-foot west flank sand.

Prospects for a second sand at Bayou Perot, LaFourche Parish, faded as The Texas Company tested dry gas through perforations at 9745-60 feet, squeezed, and will test next at 8775 feet. The test was drilled to the discovery sand at 11,379 feet. Tide Water Associated Oil Company, discoverers, were drilling out of old hole at 11,193 feet to sidetrack stuck drill pipe.

Phillips Petroleum Company opened Miami Development Corporation 1, Petit Chenier, Cameron Parish discovery, for the first time since the recent flood, obtaining 250 barrels of fluid, 60 percent salt water, remainder 45-gravity oil, through ⅛- and ¼-inch chokes. The 10,200-foot test has been reworked once since discovery and probably will be recompleted again.

Cheesman & Cranston were unable to gauge Bourgeois 1, south flank discovery on the Welsh dome, Jefferson Davis Parish, as flood waters covered the well. Initial test on this first flank production was 4 barrels of 39.5-gravity oil hourly through ¼-inch choke from 5320-26 feet. Union Sulphur Company's Fontenot 1-B, Section 35-9s-5w, was drilling near 7000 feet.

Lisbon-Iberia Oil Company dredged canal for Calcasieu National Bank 1, Section 19-12s-4w, Lowry area wildcat west of Grand Lake in Cameron Parish. This prospect was found in 1933 by The Pure Oil Company with reflection seismograph, and the company later drilled two 8200-foot and one 7200-foot dry holes in the immediate area of the Lisbon-Iberia test.

Magnolia Petroleum Company's development of the new 8200-foot sand at Iowa, Jefferson Davis Parish, centered in Waite 4, which cored the sand at 8235 feet and ran electric log in preparation for completion. Waite 14, third well in the program, was drilling below 4800 feet.

In the Neale field, Beauregard Parish, Atlantic Refining Company's Spiers 3 was near the 8300-foot sand; Musser-Davis 2 was below 6750 feet, and Rice Land & Lumber Company C-1, 1½-mile west outpost, was fishing for drill pipe stuck at 4500 feet.

Recompletion of The Texas Company's State-Lake Salvador 1, discovery in the Lake Salvador field, St. Charles Parish, yielded a potential of 840 barrels daily through ¼-inch choke, with tubing pressure 1600 pounds. The formation at 9775-9800 feet flowed initially 630 barrels daily, but dropped off to 20 barrels, was killed and recompleted.

Titanic Oil Company provided the only new wildcat of the week in Marrero Land Co. 1, Section 2-13s-23e, Jefferson Parish, south of New Orleans.

Seek Repeal of Louisiana Geophysical Prospecting Act

Joe T. Cawthorn, Louisiana state senator from the combined Caddo-DeSoto Parish district, announced last week that if Governor Sam H. Jones calls a special session of the state legislature, as has been rumored, he would introduce a resolution to kill Act 77 which makes geophysical exploration data obtained within 2000 feet of any state-owned property available to the state.

The act was interpreted to include all roads, bayous, sixteenth school sections, tax claimed land and water bottoms as being state owned lands.

Repeal of the act at this time depends on the special session, which is still a matter of question until officially announced. However, Senator Cawthorn, who lives in an oil producing section, did not issue his statement until after a two-hour conference with Governor Jones in Baton Rouge, and another conference with James A. Noe, political leader for a large part of the state, in New Orleans.

Louisiana Permits

Twenty-one drilling permits were issued last week by the Louisiana Conservation Commission, of which 5 were in North Louisiana in the following parishes: Bossier 1, Caddo 1, Claiborne, and LaSalle 2. The 16 in South Louisiana were in the following parishes: Calcasieu 1, Cameron 2, Iberville 1, LaFourche 2, Plaquemines 1, St. Martin 4, St. Mary 2, and Terrebonne 3.

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Travis Peak May Provide Oil Production in Lisbon Field

There was a showing of possible production in the Travis Peak horizon on the west side of the Lisbon field, Claiborne Parish, where oil production so far has been limited to the basal Glen Rose lime (Pettet). J. D. Carruthers, Trustee's Burgess-Simmons 1, N½ SW 2-20n-5w, logged a showing of oil at 5341-60 feet in the Travis Peak, but deepened toward the 9000-foot lower Marine without making a test. Several tests in the early days of Lisbon in 1937 had similar showings in the same horizon on the west side of the field. However, due to the decline in production of the basal Glen Rose in Lisbon there is considerable discussion of deepening several wells to the Travis Peak, which is only 60 to 75 feet below the base of the Glen Rose. Purpose of the present test is to get gas/distillate production in the lower Marine, using residue gas to re-pressure the failing Glen Rose.

After having tested five sands in the Wilcox, H. L. Hunt completed a LaSalle Parish wildcat, Goodpine A-1, SW NW 10-7n-3e, as a 35-barrel daily oil well. Total depth is 3699 feet. An offset has already been started. Another wildcat in La Salle Parish, near the old shallow White Sulphur field abandoned several years ago after a few 700-800-foot wells were completed as pumpers, was abandoned as a salt water hole at 4502 feet. The abandoned test is Atlantic Refining Company's Goodpine B-1, NW NW 26-7n-2e. Three oil wells completed in the Olla field, La Salle Parish, producing from the Wilcox, were all operations of H. L. Hunt. The old shallow Urania field, La Salle Parish, that produces from the Claiborne-Wilcox contact at 1500 feet, recorded one small oil well.

R. W. Crosby's W. E. Glassell 1, NW SW NE 11-19n-15w, Caddo parish wildcat, recovered one foot of a core from 2362-76 feet, but the recovery reportedly showed saturation. However, the test will be deepened and electric log will be run later.

Deepest drilling operation is The Ohio Oil Company's G. W. Taylor 15, Account 1, SW SE 15-23n-8w, still in lower Marine and drilling black shale at 9916 feet.

Union Producing Company's recently completed Tooke Unit 1, SW SE 10-16n-10w, Bisteneau field, Bienville Parish, completed as a 50,000,000-foot gasser, after acidization has been gauged with open flow capacity of 85,000,000 feet daily with rock pressure 2066 pounds.

P. K. Hughes staked location for a wildcat in Concordia Parish, playing the trend south of the Angelina Caldwell Flexure, the new test to be Pittsfield Plantation 1, SE 41-8n-10e.

Arkansas

Dorcheat Deep Test Nears Objective

A drilling operation in the Dorcheat deep field, Columbia County, neared the anticipated production horizon last week at McAlester Fuel Oil Company's Sayers Unit 1, CNW NE 15-18-22, drilled at 8811 feet after topping the Buckner anhydrite at 8770 feet (elevation 268 feet). In the same field, Lion Oil Refining Company's Dickens 1, CNE NW 16-18-22, was trying to get on bottom with bit after drilling out cement plug.

Only one test was drilling in the Magnolia field, Columbia County. Most active area was the Nick Springs offshoot of the old Rainbow City field. Root Petroleum Company's C. T. Grace 1, SWc NW SE 31-17-14, gauged 600 barrels daily. Total depth was 3998 feet, but casing was perforated at 3740-50 feet.

Donald Trumbo made location for a wildcat in Madison County, Earl Ogden 1, NE NE 17-14n-25w.

Southeastern States

Mississippi-Alabama Wildcat Campaigns Make More Gains

With the volume of leasing constantly mounting in Alabama, last week's wildcatting in Mississippi also showed an increase over recent weeks with locations being staked for seven wildcat tests in the latter state. Counties securing new wildcats were Lamar, Lee, Noxubee, Sharkey, Tishomingo, Warren and Yazoo, all in the northern half of the state except Lamar. Alabama secured one new wildcat, it being in Madison County.

The Alabama wildcat is W. W. Newman, Trustee's W. P. Nichols 2, NEc NW NE 2-6s-2e, which has spudded. Finding it impossible to set a nine-inch string of casing inside a 10-inch string that had parted, George E. Lilly and A. R. Temple of New Orleans junked J. A. Stafford 1, SE NE SW 24-7s-3w, Mobile County, Alabama, wildcat at 6707 feet in Selma chalk.

Humble Oil & Refining Company which in recent weeks has leased huge blocks in southern Alabama and northern Florida last week secured 40,000 acres in Oskaloosa and Walton counties, Florida, from Britton Company, as well as another large block in the same area from Harbeson Lumber Company of De Funiak Springs, along with a number of small tracts.

Atlantic Refining Company is also a large lessor in Alabama, having taken blocks in the following counties recently: Lamar, 5600 acres; Marion, 3000 acres; Greene, 31,000 acres; Pickens, 50,000 acres; Sumter, 4000 acres; Tuscaloosa, 35,000 acres. Danciger Oil & Refining Company has secured assignments of blocks in Baldwin, Conecuh, Covington, Escambia and Mobile counties, Alabama, from V. C. Perryman. W. J. Weaver of Fort Worth has secured checkerboard acreage in Conecuh, Covington, Escambia and Monroe counties, Alabama. Ed Kendall has blocked 45,000 acres in Wilcox County and Ed Powers, 20,000 acres in Covington County. J. R. Smith's acreage in Clarke County, Alabama, totals over 16,000 acres. R. N. Turnbow has leased approximately 80,000 acres in Conecuh, Escambia, Geneva, Monroe and Washington counties, Alabama.

Only one oil well was completed during the week in the Tinsley Dome field, Mississippi's other two completions being wildcat failures in Jones and Yazoo counties. Two operations were being tested at Tinsley Dome, both operations of Union Producing Company. Twiner 6, NEc 1-10n-3w, drilled to 6233 feet in Tuscaloosa (Woodbine), had 5½-inch casing cemented at 5477 feet and perforated with 200 shots in the Eutaw (Blossom) at 5380-5410 feet but it refused to flow when tubing was run and probably will be swabbed. The other was Partridge 3, SEc 1-10n-3w, drilled to 5480 feet, had 7-inch casing cemented at 5343 feet and was perforating to test. E. C. Johnstons' Brumfield B-6, SE NW 2-10n-3w, after topping Woodruff sand at 4603 feet; topping the Perry sand at 5034 feet; and topping Tuscaloosa (Woodbine) at 5702 feet and going below 6000 feet, was plugging back for test in the Woodruff, the lower formations failing to show anything. Elevation is 180 feet.

Another failure loomed in the Pickens field, Yazoo County. Exchange Oil Company's Wilburn 5, SW NW SW 32-12n-2e, is making approximately 25 barrels of salt water daily with no oil after perforating with 40 shots at 4830-4840 feet and 4865-4876 feet in the Wilburn sand, topped at 4868 feet (elevation 236 feet). Total depth is 6043 feet in Tuscaloosa.

New Mexico

Half-Mile Extension Expected To Revive Vacuum Drilling

Revival of drilling in the east portion of the Vacuum field, Lea County, should follow completion of Great Western Producers, Inc's State 1-E, NW SW NW 25-17s-35e, ½ mile east of production. The well flowed 465 barrels natural in 11 hours after drilling with cable tools to 4555 feet, then averaged 29 barrels hourly for 5 hours through open tubing. Intermediate acreage is held by Phillips Petroleum Company, while Magnolia Petroleum Company, owner of an 80-acre lease to the northwest, has made location for State 4-P, CNE NE 26-17s-35e. Other than these operations, The Texas Company is the only active operator in the field, having two tests underway and location authorized for State 4-Z, CSW NW 2-18s-34e.

Great Western Producers, Inc.s' State 1-D, near C SE SE 30-12s-32e, northwestern Lea County wildcat, was drilling at 3695 feet. This test developed 1800 feet of 36-gravity oil and 800 feet of salt water from red sand beds at 3025-32 feet before cementing 7-inch pipe at 3048 feet.

North Shore Oil Company's State-Texaco 2, SW NW NE 16-20s-32e, north outpost for the Halfway pool, encountered 3,000,000 feet of dry gas in the Yates sand at 2492 feet. It is the first gas yield of any consequence found in the pool, which has recorded 5 pumpers from the 2550-foot lime.

The discovery of a new oil pay near the 6600-foot level in the Wasson field, Texas, has resulted in deepening of Ventura Oil Company et al's Lowe 1, C SW SE 26-13s-37e, northeastern Lea County wildcat. It was carried to 6000-foot contract depth late in August, and is drilling below 6130 feet. Top of lime was called at 4610 feet, or 747 feet subsea. The equivalent of the new Was-

son field pay is due near the 7000-foot level.

L. E. Elliott et al have acquired J. W. Brown & Reynolds' Parcell-Conoco 1, C NW SE 8-21s-38e, dormant wildcat producer in eastern Lea County, which showed for a small pumper after acidizing broken pay at 4371-4401 feet in 1937. The new owners reset tubing with packer, and swabbed 9 barrels oil and 18-barrels water in 12 hours. Ted Weiner et al's Saunders 1, CNE NE 20-21s-38e, logged show of gas in the Yates section, and was drilling at 3350 feet, with an elevation of 3534 feet.

Rocky Mountain States

Lance Creek Outpost Running 7-Inch to Test

An outside location on the western Lance Creek flank, A. B. Cobb's Novick 7, CNW SE SW 6-35n-65w, has drilled to 5329 feet in the Minnelusa series, and was running 7-inch casing before drilling in to test.

The Ohio Oil Company's State 9, NW SW NW 36-36n-65w, outside location on the extreme eastern tip of the Lance Creek structure, was drilling below 3490 feet, nearing the objective Sundance.

A successful water shutoff was obtained in General Petroleum Corporation's 1-21-G, CNW NW NW 21-35n-77w, Shannon discovery for the Cole Creek field in Natrona county, Wyoming. Hole was originally drilled to the Lakota, and then plugged back to the Shannon for completion. Recent water intrusion from the lower formations made it necessary to run a cement plug just below the Shannon to seal off bottom sands.

Michigan

Wildcat Indicates Sun Oil's Fourth 1940 Oil Discovery

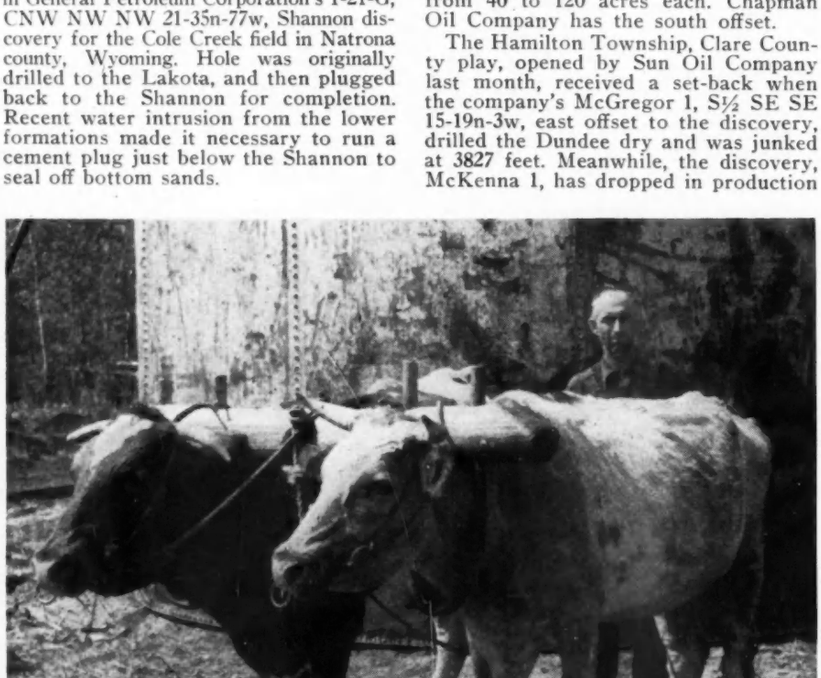
With three of the 14 oil discoveries drilled in Michigan this year to its credit, Sun Oil Company had number four under test last week. State 1, CN½ NE SE 35-20n-6w, Winterfield Township, Clare County, flowed 149 barrels by heads first 48 hours on test from Dundee dolomite at 3797½ feet. The wildcat topped producing zone at 3794 feet (sea elevation 1083 feet), and had first oil-gas saturation at 3796 feet. Two-inch tubing was to be set, probably to be followed with a 500-gallon acid treatment.

State 1 is five miles north of the Temple oil field, which produces from the same dolometic limestone at 3850 to 3950 feet. This field has recovered 5056 barrels per acre from the 10-acre drilled area, or south half, and 3101 barrels per acre from the 20-acre drilled area, or north half. Any play which follows the discovery will be controlled by Sun Oil Company and The Pure Oil Company, who have better than 80 percent of the acreage within a mile radius of the well. Gulf Refining Company, The Ohio Oil Company, Chapman Oil Company and Turner Petroleum Company are in the play with from 40 to 120 acres each. Chapman Oil Company has the south offset.

The Hamilton Township, Clare County play, opened by Sun Oil Company last month, received a set-back when the company's McGregor 1, S½ SE SE 15-19n-3w, east offset to the discovery, drilled the Dundee dry and was junked at 3827 feet. Meanwhile, the discovery, McKenna 1, has dropped in production to a near non-commercial point, averaging from 5 to 35 barrels per day with an equal amount of water.

Delay in getting packers set to shut off upper water kept Weber Oil Company's Gabel 1, Section 31-18n-10w, Osceola County wildcat, from a production test. It logged Monroe lime at 3625 feet and bottomed at 3628 feet, filling 800 feet with oil in 12 hours and swabbing 46 barrels of oil at the end of 36 hours.

Trouble also continued to jinx Cryden Oil Company's attempt to complete McDonald 1, wildcat in Section 20-17n-14e, Huron County, which flowed approximately 300 barrels of oil from the Traverse limestone at 1427 feet in a 3-day period. Test was originally drilled into pay before 5-inch producing string was set. A string of tools was jerked loose in the hole while drilling out cement, and a second string later was lost during an attempted fishing job. C. W. Teater staked a west offset to McDonald 1, and Fortney Oil Company made an east offset.



Modern mechanical genius to the contrary, George Russell of Beaverton, Michigan, operates what may the only ox team powered oil service in the country—at least in Michigan. Russell and his oxen are ready for hire (day or night) to dig slush pits, clear locations, etc. He and his team are regularly employed by Whitehill & Drury, developers in the Beaverton area.

California

Jacalitos Hills Wildcat Cores Below 9600 Feet; No Shows

Continental Oil Company's wildcat in Section 4-22-16, Jacalitos Hills area of Fresno County, reportedly topped the objective Eocene beds at about 9400 feet and was coring at 9644 feet with no showings indicated. It is west of Kettleman Hills.

In the Grapevine-Wheeler Ridge area of Kern County, Kern Line Oil Company's No. 1, wildcat project in Section 19-11-19, was coring in shale below 5945 feet, and has thus far failed to encounter anything of importance although log shows the well running higher on structure than other projects drilled in this area. Two companies have shown increased interest in the area recently, however, El Tempo Oil Company having leased property in Section 18-11-19, and 101 Oil Company in Section 30-11-19.

Ferguson 1, wildcat being drilled in the Newhall-Potrero area of Los Angeles County by Newhall-Potrero Oil Company, in Section 26-4-17, has been bottomed in shale at 8000 feet. Operators are undecided whether to go deeper, or to stake location for a second effort in the same area.

A small blow of gas and 1350-foot rise of salt water and heavy mud was obtained on a formation test run by Seaboard Oil Company on Beer 66-17, wildcat in Section 17-26-19, Devils Den area of Kern County. Test encountered sand body at 7084-87 feet on which test was run. Hole was being cored below 7450 feet.

In the Elk Horn area of San Luis Obispo County, Eugene Burrhus et al are planning to drill a test, Kern Ridge 1, in Section 8-32-22.

Southern California Petroleum Corporation will shortly complete No. 12-1A in the Thorley area of the Athens field. Bottomed at 8214 feet, well correlated about 58 feet higher on structure than the Thorley discovery well. After plugging back to 8040 feet, water shut-off test resulted in strong blow of gas and recovery of 4400 feet of oil and small amount of oily mud with tester valve open 1½ hours.

UNITED STATES WELL COMPLETIONS

Alabama

Mobile County (Wildcat)—
Geo. E. Lilly & A. R. Temple, (formerly W. J. McClanahan), Stafford 1, 24-7s-3w ..... † 6707

Arkansas

La Fayette County (McKamie)—
Atlantic Ref. Co., Bodcaw Lbr. Co. 2, 29-17-23..... 570 9287
Nevada County (Troy)—
Berry Asphalt Co., W. R. Mitchell 1 4-14-20..... ¶1.0 1234
Union County (Nick Springs-Rainbow City)—
Root Pet. Co., Grace 1, 31-17-14.. 600 3998

California

Fresno County (East Coalinga Eocene)—
Robert S. Lytle, No. 44-7F..... 213 9890
Fresno County (Kettleman North Dome)—
Kettleman North Dome Assn., No. 322-18J ..... * 10,912
No. 23-20J 275 10,869
Kern County (Cole's Levee)—
Richfield, KCL-A 16-28.....1627 9175
KCL-A 16-29 ..... 669 9100
KCL-A 54-32 ..... 309 9050
KCL-C 34-3 ..... 213 9890
Kern County (Kern Front)—
McDonald & Dearin, No. 1..... 150 1830
Kern County (Midway-Sunset)—
Mascot Oil Co., No. 56..... 20 3705
Kern County (Ten Sections)—
Shell, KCL-A 52-30 .....2167 8220
Los Angeles County (Dominguez)—
Shell, Reyes 107 .....No. Est. 7450
Los Angeles County (Montebello)—
Standard, Harvey 4..... 400 7735
Wood Callahan, Todd 1..... 370 7760
Los Angeles County (Wilmington)—
Atlantic Oil Co., Atlantic 17..... 330 3543
Dunlap Trust No. 2., Well W-6.... 185 3684
General Petroleum, S.P. 19..... 218 2890
Laramie Pet. Co., Laramie 1..... 480 3712
Puritan Oil Co., Kern 1..... 150 3550
Orange County (Huntington Beach)—
Southwest Explor. Co., State 31... 150 4551
Santa Barbara County (Gato Ridge)—
O. C. Field Gaso. Co., Continental 3 350 3890
Santa Barbara County (Betteravia)—
Union, Pezzoni 2..... * 7977
Ventura County (San Miguelito-Padre Canyon)—
Continental, Grubb 18.....2793 6770
Ventura County (Ventura Avenue)—
Shell, Taylor 12..... 200 7013
Taylor 124 ..... 319 7577

Illinois

Bond County—
Walter Vette, McClure 1, sec ne ne * 801
Arrow Dr. Co., Stoneburner 1, se cne 3-6n-2w..... * 1110
National Pet. Co., Spindler Inv. 7, sw nw nw 10-6n-2w..... 150 1023
Miller, McCario 1, ne sw nw se 27-7n-4w ..... ¶1.0 612
Clark County—
Allen & Sherritt, Harper 2, sw nw sw 5-11n-14w..... * 2449
Clinton County—
Shell, Dunbar 3, sw ne sw nw 12-1n-1w 43 1368
Arcadia Royalty, Knolhoff 1, swc nw ne 11-1n-2w..... 30 1325
O. H. Reed, Applegate 1, nw sw ne 9-3n-2w ..... * 981
Cumberland County—
Carter Bros., Howe 1, nw se nw ne 24-10n-10e..... * 200
Edwards County—
Noah et al, Works 3, s½ se se 13-2s-10e 384 3144
Jarvis Bros., Wick 1, ne nw se 24-2s-10e 70 3122
Superior, Works 5, sw se ne sw 18-2s-11e 100 3133
Works 3, nw sw nw 18-2s-11e....1750 3110
Fayette County—
Glenwood Oil Co., Life Ins. 1, nw se nw 10-5n-4e..... * 1937
C. F. Steele, Campbell 1, se se ne 1-6n-2e ..... * 1580
Grandstaff, Severns 1, nwc se nw 18-6n-3e ..... * 1801
Texas Co., Yakel 10, nw nw se 6-6n-3e 168 1588
Wright 14, ne se nw 31-6n-3e.... 154 1571
Philbrook 7, se nw se 31-7n-3e.. 56 1587
Wantland 4, se nw se 31-7n-3e.. 63 1587
Wooten 10, ne sw se 31-7n-3e.... 119 1588
Wooten 11, ne sw se 31-7n-3e.... 133 1587
Wooten 14, sw se se 31-7n-3e.... 130 1589
Zephyr Dr., Smith 8, ne se sw 31-6n-3e 55 1624
Stevens 1, nw sw se 31-6n-3e.... 135 1630
Stevens 2, sw sw se 31-6n-3e.... 15 1635
Stevens 3, sw nw se 31-6n-3e.... 150 1621
Stevens 4, nw nw se 31-6n-3e.... 150 1617
Lynn-Williams et al, Sather 1-A, sw se sw 16-7n-3e..... * 1545
Forest Oil, Buff 1-A, ne se nw nw 31-7n-3e 10 1602
Carter, Miller 4, se se nw 17-7n-3e 96 1572
McCormick 13, sw sw ne 18-7n-3e 240 1527
Phillips 1, sw se nw 1-8n-3e.... 108 1535
Miller 1, ne se se 9-8n-3e..... 450 1596
Botterbusch 2, nw nw sw 29-8n-3e 108 1517
Smith 4, nw se se 31-8n-3e..... 570 1560
Gallatin County—
Joe Zeppa, Easley 1, w½ nw ne 20-9s-9e 24 1819
Greene County—
H. R. Snavely, Schofield 1, se ne se 6-11n-11w ..... * 3960
Hamilton County—
Texas Co., Adams 1, cn½ ne nw 8-4s-7e ..... * 3558
Gulf, Morris 1, sw se sw ne 34-5s-6e 558 2982
Frank Hinkle, L&NRR 1, nw ne se ne 34-5s-6e..... 68 2968
Kingwood Oil Co., Morris 2, nw ne se ne 34-5s-6e..... 170 2975
Jasper County—
Pure, Davidson 2, cw½ sw se 17-5n-10e 1008 2795
Jefferson County—
Cairo Union Mining Co., Chaney 1, nw nw sw 23-3s-4e..... * 3190
Marion County—
Texas Co., Centralia 78, sw se sw ne 105 2295
Reed 11, nec nw 5-1n-2e..... 225 2185
Reed 12, sec ne nw 5-1n-2e..... 189 2200
Richardson 17, nec se nw 5-1n-2e 182 2190
Bundy 18, se ne nw ne 6-1n-2e.. 154 2250
Canull 26, ne se ne 6-1n-2e.... 48 2220
Friedrich 20, ce½ se sw 6-1n-2e.. 205 2245
Johnson 24, ce½ se nw 6-1n-2e.. 510 3469
Johnson 26, w½ sw se 6-1n-2e.. 810 3457
Johnson 27, nec nw 6-1n-2e..... 105 2090
Johnson 28, ne nw se 6-1n-2e.. 112 2210
Richardson 12, e½ ne se 6-1n-2e. 203 2220
Richardson 8, cw½ nw ne 7-1n-2e 924 3455
Tate 9, ce½ ne sw ne 7-1n-2e..1240 3470
Young 26, nw se nw 21-2n-2e.. 112 3523
H&K Dr. Co., Neilson 1, ne sw nw 20-4n-2e ..... * 2130
Dallas, Flannagan 2, sec nw sw 30-2n-2e ..... * 3587
Magnolia, Young 39, se ne sw 21-2n-2e 70 3528
Gibson & Jennings, Phillips 6, nec sw ne 7-1n-2e..... 52 2085

[*Continued on next page*]

Summary of Drilling Operations in the United States, Week Ended September 28, 1940

	WELLS COMPLETED							*PERMITS FOR NEW WELLS				
	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1940	Total this Date 1939	This Week	Total this Month	Total 1940	Total this Date 1939	Year Total 1939
Alabama	1	.....	.....	1	.....	6	1	.....	.....	.....	.....	.....
Arizona	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Arkansas	3	2	1	.....	1,170	142	180	8	15	112	177	223
California	24	22	.....	2	11,588	854	799	21	77	794	783	1,174
Colorado	.....	.....	.....	.....	.....	7	15	.....	.....	.....	.....	.....
Florida	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Georgia	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Illinois*	99	76	1	22	17,861	3,019	2,764	85	449	3,474	.....	893
Indiana	13	8	1	4	1,347	357	172	.....	.....	.....	.....	.....
Kansas	37	24	.....	13	49,988	1,505	1,052	46	165	1,534	1,132	1,583
Kentucky	10	5	.....	5	267	260	497	.....	.....	.....	.....	.....
Louisiana	27	20	3	4	4,418	1,256	809	21	120	1,191	1,004	1,449
Michigan	26	13	2	11	1,024	924	1,099	25	89	853	1,069	1,419
Mississippi	3	1	.....	2	425	145	11	.....	.....	.....	.....	.....
Missouri	1	.....	1	.....	.....	16	.....	3	8	12	.....	.....
Montana	12	7	3	2	1,283	144	110	.....	.....	.....	.....	.....
Nebraska	.....	.....	.....	.....	.....	12	1	3	10	18	.....	.....
New Mexico*	8	6	.....	2	1,509	512	479	6	30	456	105	293
New York†	17	17	.....	.....	49	771	448	.....	.....	.....	.....	.....
North Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio	29	9	10	10	58	747	719	.....	.....	.....	.....	.....
Oklahoma	47	30	4	13	5,608	1,610	1,534	36	128	1,373	1,515	2,059
Pennsylvania†	52	50	1	1	52	2,782	1,187	.....	.....	.....	.....	.....
South Dakota	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....
Texas	176	123	6	47	69,853	7,625	7,215	235	746	8,514	7,703	10,269
Utah	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
West Virginia	11	3	6	2	18	424	409	.....	.....	294	417	718
Wyoming	2	2	.....	.....	956	116	106	.....	.....	.....	.....	.....
Total this week.	598	418	39	141	167,474	23,246	19,596	489	1,837	18,625	13,905	20,080
Total last week.	571	389	46	136	157,948	22,648	19,054	471	1,348	18,137	13,544	20,080
Total this year.	23,246	16,921	1,316	5,009	8,252,454	.....	.....	.....	.....	.....	.....	.....

* This tabulation includes those states where weekly data are available; figures for Illinois date from October 15, 1939; New Mexico from August 1, 1939. Data for Kansas, Missouri, Nebraska and New Mexico are first reports of new wells, rather than actual permits.
† Includes water-input wells.

United States Well Completions—*Continued*

ILLINOIS—Continued

Montgomery County—

Company, Well and Location	Init. Prod. Bbls.	Depth
C. W. Miller, Alford 1, ne nw nw 6-10n-5w	*	693

Randolph County—

Leslie Hunt, Fisher 1, se ne nw nw 21-5s-6w	*	345

Richland County—

Pure, Bauman 1, ce½ sw ne 12-4n-9e	5	2955
Wachtel 1, ce½ nw nw 18-4n-10e.	746	2965
Kermicle 2, ce½ sw sw 32-5n-10e	378	2850

Shelby County—

E. E. Goad, Hoagland 1, nw nw sw 14-9n-4e	*	2005

Wabash County—

Clint Crosby, Higgins 1, nw ne sw 3-1n-13w	50	2696
H. W. Snowden et al, Case I, swc se nw 3-1n-13w	100	2710
Alford Pet., Gutheridge 1-A, se sw nw nw 29-3n-12w	40	1950
W. E. Skeen, Chapman 1, sw nw sw sw 13-1s-13w	*	1050
Frank Tatum, Alka 1, ne sw sw 34-1s-13w	*	2686
Alka 1 nw nw se 34-1s-13w	300	2656
Tidewater, Buchholz 2, ne sw ne 9-2s-13w	75	2410
Sam Yingling, Compton 3, sw se sw 19-2s-13w	10	1722
Kingwood, Hocking 1, ne se nw 20-2s-13w	47	1714
W. W. Gray, Fee 1, se sw se 14-3s-14w	450	2860

Washington County—

Mudge Oil, Mitchell, sw se ne 22-1s-1w	*	3199
Williams, Pijut 1, sw nw se 18-3s-1w	*	1649
H. Hubbard, Hunleth 1, sw sw ne 30-3s-4w	*	1220

Wayne County—

Pure, Barth 2, nec sw ne 5-1n-8e..	370	3130
Hubbell 8, cw½ sw sw 33-2n-8e..	577	3090
Oil Well Dr., Harris et al 1, cs½ nw ne 34-1s-7e	18	3382
Texas, Clark 3, sw ne sw se 4-2s-7e	633	3265

White County—

Arrow Dr. Co., Potter Strip 1, sec ne 8-4s-14w	130	2693
Buell & Herndon, Bond 2, ne se ne 8-4s-14w	98	2698
Cherry & Kidd, Gray 3, se se se 8-4s-14w	75	2230
McIntyre et al, Potter 2, se ne se 8-4s-14w	90	2704
D&H Dr. Co., Hon 1, nw sw se 9-4s-14w	180	2232
Pure Oil, Calvin 2, se se nw 9-4s-14w	57	2718
Potter 4, nw sw sw 9-4s-14w	59	2708
Superior Oil, Given 2, nw ne se 33-4s-14w	100	2597
Tide Water, Dennis 1, sw sw ne 33-4s-14w	367	2900
Eason Oil Co., Storms 4, nw sw se 11-6s-9e	120	2250
Geo. Cameron, Wilson 2, sw se sw se 15-6s-9e	70	2243
Bay Oil Co., Storms 1, ne se nw ne 22-6s-9e	83	2253
Storms 2, ne nw ne 22-6s-9e	120	2251

Indiana

Daviess County—

J. W. Cannon, Evans 3, nw se se ne 8-2n-5w	15	626

Gibson County—

Papoose Oil Co., Cooper 10, ne ne sw 13-3s-14w	300	2499
Continental, Kleiderer 4, se se sw 26-3s-14w	93	2817
Keck 8, swc sw 27-3s-14w	594	2884

Marion County—

J. W. Adams, Kleiman 1, se sw se ne 22-16n-5e	¶.055	1055

Porter County—

Roung & Lowe, Nielsen 1, sw nw sw nw 28-36n-5w	*	283

Posey County—

Harry Sandler, Keck 4, se nw sw nw 34-3s-14w	155	2808
W. C. McBride, Swonders 2, se ne nw ne 4-4s-14w	170	2797
Gulf, Lang 3, se ne se 6-6s-12w..	*	2863
LaSalle Dr. Co., Peoples Bank 1, se nw se 26-7s-15w	*	2775

Spencer County—

Bowen Hoover, Rothert 2, nw se nw nw 1-5s-6w	5	758
W. W. Damron, Boyd 2, sw se se 30-7s-6w	15	928
L. L. Benoist, Abbott 1, ne ne nw 7-7s-7w	*	1056

Kansas

Barton County—

Kaiser, Sausen 1, cw½ sw sw 12-16-14w	3000	3333
Lario et al, Reiser 2, cn½ ne nw 23-20-11w (OTD 3292)	3000	3301

Butler County—

H. & M., Tatum 1, ne se ne 4-27-6e	*	2832
Rex-Morris, DeMoss "A" 7, sw nw nw 8-28-7e	45	2669

Cowley County—

Ryan, Hunsaker 1, sw se ne 13-30-5e	152	2830
McKnab, Southwestern College 3, csl sw nw se 11-32-4e	*	3454
Continental, Breon 1, ce½ sw se 4-35-4e	*	3710

Ellis County—

Cities Service, Collahan 18, ne nw se sw 24-11-17w	3000	3489
Skelly, Kempe 7, cs½ ne nw 12-11-18w	3000	3409
British-American, Karlin 3, cn½ sw nw 13-12-18w	178	3699

Ellsworth County—

Aylward Horejsi 1, cw½ nw sw 5-16-10w	*	3319
Palmer et al, Stoltenberg "B" 3, ce½ ne nw 27-16-10w	3000	3288
Texas, Schroeder 2, cs½ ne sw 27-16-10w	3000	3268
Lauck & Moncrief et al, Meyer 2 cwl nw ne nw 35-16-10w	3000	3288
Cities Service, Strattman 2, cn½ sw sw 36-16-10w	3000	3303
Mudge, Schroeder 1, nw se ne 30-17-9w	120	3216

Harvey County—

Texas, Androes 1, se nw sw 8-22-3w	*	3690

Lyon County—

Connell et al McKee 1, se ne ne 32-21-11e	*	2106

Marion County—

Rex-Morris, Rudolph 1, nec se 36-17-3e	*	2477

McPherson County—

Sunray, Pearson 1, cw½ sw ne 18-20-5w	3000	3358
Ely 1, se nw ne 5-21-5w	*	3452
Cities Service, Holgerson 1, cw½ sw nw 20-20-5w	2950	3395

Pratt County—

Cities Service, Lehrling 1, ne sw sw 19-27-11w	*	4529

Rice County—

Buckles, Ramsey 1, ce½ se se 9-18-7w	*	3339
Continental et al, Pickerill "A" 7, se sw ne 24-18-8w	3000	3173
Transwestern et al, Roesler 4, cn½ ne sw 6-18-10w	3000	3264
Crosbie, Wright 1, cs½ ne se 13-20-6w	109	3352

Russell County—

Liggett, Chrisler 1, sw nw sw 9-11-15w (OTD 3280)	40	3385
Skelly, Opdycke 13, ne se nw 32-14-13w	934	2876
Haynes et al, Hill 1, sec sw 16-14-14w	1830	3153

Sedgwick County—

Fuller et al, Stilt 1, cs½ se ne 21-27-1w	*	2806

Shawnee County—

Corbett et al, Security Benefit 1, csl nw 28-11-15e	*	2170

Stafford County—

Cities Service, Smith "B" 5, cw½ nw sw 16-21-11w	1630	3384
Hopper, Siefkes 1, cs½ se se 34-21-12w	*	3764
Transwestern, Johnson 3, ce½ sw se 3-24-11w	3000	3775
Magnolia, Trethar 1, sw se se 12-24-11w (OTD 3744)	3000	3782
Moore et al, Stewart 3, cs½ ne sw 12-24-11w (OTD 3751)	3000	3798

Kentucky

Daviess County—

Master Oil Co., Richmond 8	30	1226
Staves Dr. Co., Igleheart 5	200	1275
Stewart & Snyder, Ezell 2	30	1652

Hancock County—

Roy Beard, Pate 1	*	440

Henderson County—

Snowden-McSweeney, Bennett 1	*	1568

Ohio County—

H. C. Farmer et al, Johnson 6	*	1250
J. Tuttle, Berry 9	*	178
J. A. McCowan, Edge 2	2	667
United Petroleum, Miller 1	5	303

Union County—

Benedum & Trees, Clements 1	*	2490

South Louisiana

Anse La Butte—

Kennard, Hooker-McLean 1	*	4465
Delaureal-Daly 1	*	lcn

Barataria—

California, Fleming 6	308	8198

Bayou Blue—

Superior, Schwing 4	165	4662

Dog Lake—

Texas, State 24	400	7817

East Tepetate—

DeArman & Nicklos, McManus 1..	¶	3385

Hackberry—

Harrison & Abercrombie, Verdrene 3	473	7274

Jennings—

Stanolind, Houssierre-Latrielle 20..	287	8442

Lake Long—

Fohs and Pilgrim, State 12	200	9363

Lockport—

Magnolia, Farquhar 11	75	6745

Ville Platte—

Continental, Fontenot 1	*	10,230
Vidrine 3-14	377	10,222

St. Charles Parish—

Texas, State-Lake Salvador 1	840	10,500

North Louisiana

Bossier Parish (Sligo)—

H. M. Harrell et al, Porter 1, 20-17n-11w	¶50.0	4300

Caddo Parish (Pine Island)—

Tiger O.&G. Co., Crystal Fee B-2, 2412-1n-16w	10	997
A. R. Hancock, Louark Fee 10, 18-21n-15w	250	1690
E. G. Hutchison, Muslow Oil Co. 1, 31-21n-15w	18	1589
Pelham Oil Corp., Bickham 5, 28-21n-15w	150	1549

De Soto Parish (Naborton)—

Roy L. Reese, Harp 1, 35-12n-11w.	30	2724

La Salle Parish (Wildcat)—

H. L. Hunt, Goodpine A-1, 10-7n-3e	35	3699
Atlantic Ref. Co., Goodpine B-1, 26-7n-2e	*	4502

La Salle Parish (Oila)—

Placid Oil Co., La. Cent. Lbr. Co. 19 36-10n-2e	100	2298
La. Cent. Lbr. Co. 25, 19-10n-3e.	90	2383
La. Cent. Lbr. Co. 31, 30-10n-3e.	115	2410

La Salle Parish (Urania)—

R. E. Trichel et al, Doughty 1 36-10n-1e	15	1528

Tensas Parish (Wildcat)—

H. L. Hunt, Chicago Mill & Lbr. Co. 2, 30-12n-10e	*	4236

Union Parish (Monroe)—

Memphis Nat. Gas Co., Lankford 10, 29-23n-4e	¶3.5	2210

Webster Parish (Cotton Valley)—

Hunt Oil Co., Crawford et al 1, 30-21n-10w	480	8610

Michigan

Allegan County—

Dapar Oil Co., Miller 1, se sw sw 8-3n-12w	*	1592
Redman Oil Co., Poelakker 2, nw se nw 9-4n-14w	*	1477
James E. Flanigan, Engelsman 1, se sw se 15-4n-14w	5	1550
Gordon Oil Co., Koopman 1, se ne sw 16-4n-14w	*	1625
Slotman 1, nw nw ne 21-4n-14w..	50	1459
Michigan Devonian, Hoeve 1, ne se nw 27-4n-14w	15	1458
Universal G.&O. Co., Smith 1, se ne nw 15-4n-13w	192	1601

Arenac County—

Pure Oil, Bryan 1, nw sw nw 23-19n-3e	*	3036
Don Rayburn, Spencer 1, se se sw 23-19n-3e	60	2988
W. E. Ross, Mutch 1, cnw ne 9-20n-4e	¶½	1144

Clare County—

Sun Oil, McGregor 1, s½ se se 15-19n-3w	*	3827
Talbot Oil Co., State C2, ne nw se 32-19n-6w	200	3888

Isabella County—

Stewart Oil Co., Weidman 1, cw sw sw 11-15n-3w	*	3770
Cities Service, Allen 3, nw se ne 17-16n-3w	192	3745

Midland County—

Daily Crude Oil Co., Neitzke B-1, cne nw 21-13n-1w	80	3385

Missaukee County—

Taggart Brothers Co., Koetje 41, csw 23-21n-7w	¶5.5	1374

Osceola County—

Taggart Brothers Co., Gibson 42, csw 24-20n-7w	*	1402

Ottawa County—

L. D. Hendershott, Daling 1, sw se se 14-7n-13w	100	1862
Swanson Cons. Oil Co., Osinski 1, sw sw se 28-7n-13w	9	1916
W. H. Clock, Baldwin 1, ne ne sw 34-7n-13w	11	1902
Smith Pet. Co., Baldwin 1, sw sw ne 34-7n-13w	10	1948

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
St. Clair County—		
C. J. Farley, Walker 1, ne se nw 26-7n-16e	*	800
Bach & Creech, Thompson 1, se nw sw 5-7n-17e	*	660
Shiawassee County—		
Try-More Oil Co., Shimunec 1, nw nw se 5-7n-2e	*	2265
Van Buren County—		
R. H. Grant, Stewart 1, sw nw ne 7-1s-14w	100	1210
Franz Marceau, Fee 1, ce½ nw ne 26-1s-15w	*	1175
Mississippi		
Jones County (Wildcat)—		
R. W. Williams et al, Eastman-Gardiner Lbr. Co. 1, 1-8n-12w	*	7009
Yazoo County (Wildcat)—		
Joe Dawson, McGraw-Curran Lbr. Co. 1, 19-11n-3w	*	6009
Yazoo County (Tinsley Dome)—		
Magnolia, Milner 3, 6-10n-2w	425	5318
Missouri		
Platte County—		
Davis et al, Lampe 1, se nw 12-51n-34w	¶1.5	505
Montana		
Glacier County (Cut Bank)—		
Glacier Prod. Co., Delaney Unit 1, c 36-34n-5w	¶9.0	2630
Hannah-Porter Oil Co., Allotted 5-130, nw nw se 6-32n-5w	150	2947
A. J. Kately, Thayer 1, ne se nw 15-34n-6w	207	2936
Texas Co., Curran 6, sw ne 8-32n-5w	*	3089
Toole County (Kelvin-Sunburst)—		
Cons. Gas Co., Lyon 1, cne ne 4-32n-2w	¶1.0	1528
A. E. Crumley, Fryberger 20 sw sw ne 25-35n-3w	216	1616
McKnight & Stock, State 3 cnl nw nw 16-35n-2w	100	1540
Montana-Dakota Utilities, Mueller 313, cne ne 33-34n-1w	¶2.5	1208
C. T. Olen, Engemoen 10, ne sw nw 14-35n-2w	170	1567
Twin Fields Pet. Co., Government 1, nw nw nw 28-35n-3w	240	1785
Government 2, se se sw 21-35n-3w	*	1767
Vanderpas et al, Thumm 3, cnl nw nw 33-35n-3w	200	1711
Nebraska		
Scottsbluff County—		
Farrey Pet. Co., McCully 1, cse se 35-23n-58w	*	2100
Albert Woods et al, Fee 1, se ne ne 33-23n-57w	*	1209
New Mexico		
Eddy County—		
Aston & Fair, Brigham-Beeson 2, nw ne se 31-17s-30e	560	2883
Barnsdall Oil, Dodd 3-B, c ne se 14-17s-29e	*	3029
Carper Dr. Co.-Keohane & Saunders, McFadden-Day 2, nec nw 3-19-31	45	2678
Lea County (Cooper-Toby)—		
Western Gas Co., Toby 3, c nw se 12-24s-36e	120	3595
Lea County (Eunice)—		
Cities Service, Closson 3-B, cw½ nw nw 20-22s-36e	304	3801
Texas Co., State-Lieu 23-H, cnw sw 20-20s-37e	240	3850
Lea County (Maljamar)—		
Barefield-Phipps Oil Corp., Walker 2, csw nw 5-18s-32e	*	4332
Lea County (Rhodes)—		
Texas Co. et al, Rhodes 2-B, nwc se 27-26s-37e	240	3275
New York		
Allegany County—		
V. V. V. Franchot, Murphy farm, Bolivar	5	1435
R. B. Moore No. 6, Daniels farm, Bolivar	5	1442
C. H. Christman & Son, Underwood farm, Scio	8	1286
Bradley Prod. Corp., Monder farm, Alma	5	1365
Dick Oil Co., Cameron farm, Bolivar	6	1447
H. W. Patterson, Black farm, Scio	4	754
Marsh Oil Co., Austin-McKinley farm, Greenwood	8	1355
Messer Oil Corp., Koehler farm, Genesee	5	1380
Birtoll Oil Co., Cady farm, Wirt	3	1156
Water Intake Wells—		
Messer Oil Co., Miles farm, Bolivar	...	1430
Wm. Taylor Est., Breckenridge farm, Alma	...	1322
Bradley Prod. Corp., Monder farm, Alma	...	1324
Dick Oil Co., Cameron farm, Bolivar	...	1441
Homestead Oil Co., Homestead farm, Bolivar	...	1438
L. H. Thornton et al, Brown farm, Alma	...	1363
H. W. Patterson, Fuller farm, Scio	...	735
Karl-Weller Oil Corp., Karl farm, Genesee	...	1367
Ohio		
Ashland County—		
Fierbaugh, Seiss 1	*	734
Coshocton County—		
Ohio Fuel Gas, Humphreys 1	¶0.6	3367
Fairfield County—		
Lancaster City Gas, Keister 2	*	2215
Gallia County—		
Ohio Fuel Gas, Roush 1	¶0.09	1595
Guernsey County—		
Ronshausen, Nyce 1	¶0.03	1079
Hocking County—		
Preston Oil Co., Sunday Creek Coal Co. 183	22	3551
Holmes County—		
Ohio Fuel Gas, Moore 1	*	3230
J. C. Moore, Kendall 1	*	820
Jefferson County—		
O'Day Oil Co., McConnell 13	*	1340
Licking County—		
Ohio Fuel Gas Co., Nesbitt 1	¶3.46	2216
James McCloy, Swank 1	¶1.12	2382
S. D. McCloy, Owens 1	¶0.72	2341
Shrider, McKinney 4	3	521
Medina County—		
Belmont Quad. Dr. Co., McClain 1	10	412
Pearsol, Vandemark 1	5	426
Edson, Billman 1	*	574
Preston Oil Co., Garver 1	*	400
Sloan & Zook, Doane	*	416
Meigs County—		
Proffitt, Smith 1	¶0.13	1874
Bowman, Brown 3	¶0.05	586
Monroe County—		
Luburgh, Swartz 25	5	578
Harris, Spence 2	*	1370
Morgan County—		
Crowley, Bowman 2	¶0.25	955
Muskingum County—		
Gas Prod. Co. of O., Milligan 1	¶5.2	4210
Noble County—		
Harper, Walters 1	5	720
W. H. Phillips & Co., Wilson 3	3	540
Wilson Oil, Wilson 8	3	725
Skinner, Brown 4	2	975
Perry County—		
C. Z. Ruth, Rodgers 21	*	1191
Oklahoma		
Caddo County—		
Magnolia, McKenna 7, ne ne se 11-5n-9w (OTD 2400)	723	3868
Ohio, Wagner 2, csl se nw sw 12-5n-9w	490	3386
Creek County—		
Beal, Fee 2, ne nw ne 36-14n-9e	*	2022
Dunn et al, Anthis 1, nw se se 34-14n-10e (OTD 3196)	135	3299
Tibbens, Yohola 1, se sw se 23-15n-8e	18	3248
Curtis, Larrimore 3, csw nw 10-19n-9e	75	2118
Grady County—		
Critchlow, Adair 8, nw nw sw nw 27-3n-5w	3	2685
Hughes County—		
Loual, Stevenson 1, ne nw se 24-8n-10e	¶7	2920
Jackson County—		
Matthews et al, Inklebarger 2, sw se sw 3-1n-20w	3	1784
Gulf, Herbert 5, nw se se 9-1n-20w	40	1668
Burnham, Hensley 1-B, swc nw 10-1n-20w	84	1585
Kay County—		
Zephyr, Morrell 1, swc se 8-28n-4e	*	3245
Kingfisher County—		
Phillips, Grape 1, cnw se 30-18n-5w	*	8226
Latimer County—		
Le Flore G. & E. Co., Holmes 35, sw ne ne 6-6n-22e	¶4.2	2472
Lincoln County—		
Sun, Cook 4, sw nw sw 1-14n-3e (OTD 4270)	26	4057
Magnolia, Ross 9, nw sw se 2-14n-2e (OTD 4220)	312	3976
Gulf, Lee 1, nwc sw 36-15n-2e (OTD 5195)	*	4744
Lee 2, sw nw sw 36-15n-2e (OTD 5111)	*	5079
Muskogee County—		
Metzger et al, Springer 1, se sec nw 12-13n-17e	*	2485
Okfuskee County—		
Sinclair-Prairie, Monarye 1, nw ne se 29-12n-10e (OTD 3161)	22	3000
Oklahoma County—		
I. T. I. O., Trosper 12 se nw sw 13-11-3w	199	4059
Sunray, Harn 1, se sec nw 27-12n-3w (OTD 6439)	760	6542
State 12, ne ne se nw 27-12n-3w (OTD 6456)	950	6547
Okmulgee County—		
Moffett et al, Durant 1-A, sw se nw ne 16-11n-12e	*	105
Wallace, Colbert 3-A, sw sec nw 14-14n-14e (OTD 1050)	10	1723
Osage County—		
Skelly, No. 1, swc nw 28-22n-9e	*	2163
I. T. I. O., No. 471, nwc 32-25n-11e	¶1.5	2086
Texas, Fairfax-Bennett 2, cs½ se 1-23n-7e	24	2910
Payne County—		
Mid-Continent, Johnson 2, ce½ sw se 2-17n-1e	97	4964
Pittsburg County—		
Oklahoma Natural, Pope 1, ne sw nw 8-7n-18e	¶4.5	2110
Pontotoc County—		
Lake, Gray "B" 2, ne se sw 25-5n-4e (OTD 2581)	20	2654
Summers 3, se sw sw 25-5n-4e (OTD 2592)	90	2642
United Corp., Burke "B" 2, nw sw se 25-5n-4e (OTD 2622)	40	2693
Henson, Layne 6, ne sw nw 30-5n-5e	60	2522
Garretson, Roberts 1-A, nwc sw 31-5n-5e	*	2585
Pottawatomie County—		
Ziegler et al, Thomas 2, nw ne ne 9-7n-4e (OTD 3558)	30	3950
Vernie, Sims 1, nwc se 16-7n-4e (OTD 3980)	*	4232
Gulf, Green 4, ne nw se 17-7n-4e (OTD 4178)	365	4290
Amerada, Harrison 4, sw nw sw 33-7n-4e (OTD 4244)	475	4262
Alma, Boyd 1, sw ne sw 28-7n-5e (OTD 4184)	10	3050
Olsen, Briscoe 1, swc ne 29-7n-5e (OTD 4176)	*	4221
Seminole County—		
Mid-Continent, Harjoge 2, nw se se 31-7n-8e (OTD 4300)	175	4174
Winona, Meyers 1, se sw ne 31-7n-8e (OTD 4247)	180	2990
Meyers 3, nw se ne 31-7n-8e (OTD 3190)	*	3050
Stephens County—		
Clark & Cowden, Simpson 3, ne nw se ne 11-1n-5w (OTD 1075)	42	1569
Stogner, Bush 1, nw ne sw se 4-2s-8w	*	2150
Wagoner County—		
Bailey, Robson 1-A, se ne nw 22-19n-15e	150	934
Pennsylvania		
BRADFORD DISTRICT		
Tapp, Gallets & Buffington, Trs. Fee	2	....
Bell Oil Co., Fee	2	....
Bug Oil Co., Mosher	½	....
B. McCaffery et al, McCaffery	1	....
Bradford Transit Co., 27 wells	27	....
Forest Oil Corp.	1	....
Forest Pet. Corp.	1	....
Niagara Oil Corp., 3 wells	3	....
Boyle, Camp & Raymond, Bing 392	1	....
Lincoln & Burk, Connally	3	....
Pine Run Oil Co., Bing 130-2-3-4-6	4	....
Penn Valley Crude Oil Corp., Rasey	2	....
Fee	1	....
Messer Oil Corp., Loop	1	....
V. G. Smith, Fee	2	....
Water Intake Wells—		
Forest Oil Corp.	...	....
Forest Pet. Corp., 2 wells	...	....
Niagara Oil Corp., 3 wells	...	....
Pine Run Oil Co., Bing 130-1-2-3-4-6	...	....
BUTLER ARMSTRONG DISTRICT		
Edward McKinney, McKinney	2	....
T. W. Phillips G. & O. Co., Gaiser	*	....
MIDDLE DISTRICT		
Brundred Oil Corp., Tract 81	1	....
H. M. Amsler, Bissell or Wick	1	....
Fryburg Motor Co., Davis	1	....
Patterson & Simmons Oil Co., Lot 266	20	....
White Mitchell, McCullough	¶	....
NEW YORK-PENN GAS AREA		
Penn-York Gas Corp., Patten	*	....
SOUTHWEST PENNSYLVANIA		
Clarion County—		
Frank Shreffler, Clarion County Home 6	¶0.04	1235
Greene County—		
John Ingram et al, Donham 1	*	2900
Texas Panhandle		
Carson County—		
Magnolia, Fee (Tr 244) 89	135	3065
Gray County—		
Shirley Clum et al, Davidson 2	246	3098
Hutchinson County—		
Barnsdall Oil Co., Lewis 13-B	240	3078
Fraber-Hodges Corp., Ware 3	242	3058
Kewanee Oil Co., Lewis 45	346	3002
A. C. Oates et al, Starnes 4	122	3115
Moore County—		
Panhandle-Eastern P. L. Co., Walker 1-5	¶24.0	2825
Shamrock O&G Co., Sneed 18	¶74.2	2832
Wheeler County—		
Shell Oil, Harris 1	*	2285

United States Well Completions—*Continued*

East Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Joiner Area—		
Fair Oil Co., Wylie 8-A (26.87-ac)	285	3668
Kilgore Area—		
American Liberty Oil Co., Sabine River 39, Tr. 4 (167.4-ac)	7200	3508
S. B. & H. M. Barnes, Willoughby 3 (46/100-ac)	960	3567
D. H. Byrd et al, Godfrey 3 (5-ac)	3600	3605
Longview Area—		
L. & G. Oil Co., Lee 5 (36-ac)	2500	3575
XYZ Oil Co. (G. E. Burford), Fuller 2	*	3734
Anderson County (Long Lake)—		
Champlin & Bass, Inc., Kneeling-Tidal 1 (186-ac)	¶115.0 & 39	5345
Alex McCutchin et al, Reagan 2	81	5379
Franklin County (Talco)—		
Texas Co., Barker 17 (468.39-ac)	190	4285
Freestone County (Cayuga)—		
Amerada Pet. Corp., Berk 12 (1057-ac)	191	4027
Stanolind O&G Co., Moody 3	197	4025
Smith County (Chapel Hill)—		
Shell & Sun, Bacon 1	¶2.0 & 219	8112
Sun, Jones 1	¶2.0 & 124	8179
Van Zandt County (Wildcat)—		
R. W. Fair & A. D. Clark, Hallman 1	*	4379
Harrison County (Waskom)—		
Ark. La. Gas Co., Taylor 1, S. Holloway sur	¶8.5	6180

Texas Gulf Coast

Company, Well and Location	Init. Prod. Bbls.	Depth
Alta Loma—		
Stanolind, Hulen 2	1200	9700
Esperson—		
General Crude, Sun Oil 14-B	585	6848
Hardin—		
Dyer, Humphrey 2-B	*	lcn
Hull—		
Campbell, Crown Central 1	*	1100
Lovell's Lake—		
Humble, Broussard 24	168	7816
North Houston—		
Landreth-Keystone, Kraft et al 2	38	6881
Ogburn—		
Richardson-C. C. Dr. Co., Rorick 1	130	6924
Rockland—		
Midwest of Texas, Boykin 4	35	1290
South Bay City—		
Hamman, Slone 6	154	9355
West Beaumont—		
Hebert & Smith, Yount 1	*	6770
Withers—		
Texas, Pierce B-61	115	5398
Thompson A-19	90	5538
Pan-American, Halamicek 2	127	5545

West Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Crane County (Gulf-McElroy)—		
Gulf, McElroy 226 (13,761-ac)	1105	2919
Crane County (Sand Hills)—		
Humble, Tubb 1-E	138	4590
Crockett County (Wildcat)—		
J. K. Hughes Oil Co., Shannon 1	*	2502
Dawson County (Wildcat)—		
Magnolia, Sandidge 1	*	5345
Ector County (Foster)—		
Atlantic Ref. Co., Foster 1-B	1190	4183
Great Western Prod. Inc., Johnson 5	681	4076
I. T. I. O., Johnson 4-D	1168	4155
Shell, Witcher 5-C	524	4183
Ector County (Goldsmith)—		
Gulf, Goldsmith 308	264	4176
Goldsmith 309	1100	4244
Goldsmith 311	1012	4232
Goldsmith 313	21	4219
Phillips Pet-Pure, Cowden 105	2048	4157
Ector County (Jordan)—		
Cities Service, University 3-B	988	3611
Sinclair Prairie, University 1-78	876	3620
Ector County (North Cowden)—		
Barnsdall, Smith 17	976	4220
Ector County (Wildcat)—		
Stanolind, Midland Farms 1-C	*	4887
Gaines County (Seminole)—		
Amerada Pet Corp., Coffey 2	666	5230
Amerada & Humble, Blakemore 2	794	5350
Humble-T. P. Coal & Oil Co. Blakemore 2-B	512	5290
Gaines County (Wasson)—		
Amon Carter-Phillips Pet Co., Wasson 3-B	1005	5026
Howard County—		
R. M. Huff et al, Douthitt-T. P. Coal 1	*	1351
Pecos County (Shearer)—		
Pecos Onondaga Oil Corp., Shearer 2	*	1588
Upton County (McClintic)—		
T. P. Coal & Oil Co., Eddleman 1	233	3250
Yoakum County (Wasson)—		
Aloco Oil Co., Chatterton 4	703	5164
Anderson-Prichard, Willard-Spearman 9	1668	5148
Don Danvers et al, Comer-Shell 3	916	5200
Humble, Armstrong 4 (7950-ac)	967	5090
Wooten 32	1082	5135
Oil Dev. Co., Willard 6-763	364	5215
Shell, Kendrick 4	767	5115

North Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk)—		
Gulf, Siegel 22	696	3810
Humble, Wilson 9	336	3784
Phillips, Little-Novella 4	1272	4416
Texas Co., Wilson 43-A	792	4400
Archer County—		
P. L. & Ben Andrews, Fee 2	10	967
L. T. Burns et al, White 99	8	457
White 101	10	455
Deep Oil Dev. Co.-Lindsey, Wilson 25-A, lse 4-A	9	1422
Baylor County (Rendham)—		
British-American O.P. Co., Green 1K	156	3027
Baylor County (Wildcat)—		
R. T. Myers et al, Portwood 1-a	*	899
Clay County (Shell-Henderson)—		
Shell, Henderson 4 (pb to 3192 ft)	924	3573
J. G. Mullens 1	860	3235
Clay County (Kinder)—		
Frabor-Hodges Corp.-Sinclair Prairie, Kinder 2	*	4350
Clay County—		
E. N. Costley et al, McInnes 6-B	10	1088
Sussex Oil Corp., Glasgow 12	10	1242
Clay County (Wildcat)—		
Bridwell Oil Co., Edrington 16	*	1771
Cooke County—		
Humble, Helman 3	219	1280
Cooke County (Walnut Bend)—		
Sun Oil, Snuggs 6	199	4949
Childress County (Wildcat)—		
Texas Co., Smith 1	†	5569
Foard County (Allee)—		
Foster Pet. Corp., Allee 2	¶5.5 & 127	2372
Thomason O. & Roy. Co. et al, Gamble 1 (oil disc)	¶4.5 & 40	2370
Gamble 2	65	2360
Jack County—		
B. C. Gilmore et al, Bertha Moore 1	5	428
H. M. Tebay et al, Smith 4	30	2378
Montague County (Bonita)—		
Sinclair Prairie, Howard 3	1836	5238
Throckmorton County (Wildcats)—		
Walter Neustadt et al, Brown 5	*	704
Poage 1, sec 933	*	535
Spain 1, sec 940	*	641
Wichita County (K-M-A)—		
Geo. Cooper et al, Waggoner Bros. 56	50	4034
Dalport Oil Co., Munger 5	1144	3874
Fain-McGaha Oil Corp., Griffin 16-B	900	3856
W. B. Hamilton et al, Martin 7-E (pb to 3560 ft)	1536	3720
Hanlon & Buchanan, Fassett-Tuttle 22-G	500	4119
Highpoint Oil Co., Burnett 1	360	4137
Shell-Phillips Pet. Co., Preston 12-A	1092	4018
Sunray Oil Co., Denny 1-A	456	3960
Wichita County—		
C. W. Clark et al, Warren 3	*	1686
Fred M. Gates et al, Birk 2	*	1415
Birk 3	*	470
W. H. Hammon et al, Fee 4-AA	10	1314
Ross Dr. Co.-King Oil Co., Waggoner Bros. 4	5	322
Waggoner Bros. 5	4	310
Waggoner Bros. 6	5	314
Texas Co., Honaker 76	10	1058
Wichita County (Wildcat)—		
Ted Norwood et al, Doyle 1	*	1436
Wilbarger County—		
Phillips Pet. Co., Waggoner Est. 213	*	3119
Young County—		
B. G. Collier et al, Scott 2	*	2350
Craig & Wilson, Kee 1	*	1173
Gilmore & Prideaux, Prideaux 1	*	730
Kleiner-West & H. Y. Oil Co., Prideaux 3	*	652
W. F. Palmer et al, Campbell 9	10	984
Rowan Dr. Co.-Southland Roy. Co., Sloan 1	2856	3768

West Central Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Brown County—		
G. Eakin et al, Williams 3	8	1100
Callahan County (Wildcat)—		
Merry Bros. & Perini, Yost 1	*	3220
Callahan County—		
H. W. Lee at al, Harris 2	*	1293
Coleman County—		
Bradford & Robertson, Morris 3	408	3612
McKissick et al, Sealy-Smith 1	*	3622
Jones County (Wildcat)—		
Charter O&G Co., Nobles 1	*	2302
Jones County—		
Lewis Prod. Co., Sayles 8-D	75	1922
Shackelford County (Wildcat)—		
Roark et al, Nail Est. 1-42	*	1143
Shackelford County—		
Crites et al, Green 1	*	576
Hickok P&D Co.-Harry Reynolds, Morris 2	15	1464
Roark et al, Crow 1	*	848
Hickman 14	47	677
Stephens County—		
Falcon Co., Robertson 2	576	3616

South Texas

CORPUS CHRISTI DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Aransas County—		
MAR Prod, Co., Williams 1 (McCampbell)	56	7200
Cameron County—		
Pure Oil, Garcia Ld & Livestock Co. 2, (WC) Santa Isabel gr	*	3500
Garcia Ld & Livestock Co. 3, (WC) 7126.15-ac lse	*	3522
Goliad County—		
Continental Oil, Reed 1 (WC) Sebastian Vela sur	*	5127
Jackson County—		
Barnsdall Oil, Lazarus 3 (Lolita)	500	5930
Magnolia, Mitchell 1 (Lolita)	350	5931
Turner 4 (West Ranch)	1100	5770
Ward 4 (Lolita)	¶ 1.5	5927
Shell Oil, Stephan 2 (West Ranch)	1250	5762
Willoughby Est. 1 (Lolita)	400	6395
Texas Co., Mortgage Ld & Invest. Co. 4 (Ganando)	40	5104
Tidewater, L. Ranch Co. 1 (Lolita)	600	5946
Jim Wells County—		
Arkansas Fuel Oil, Schrade 1 (Wade City)	450	4938
Henderson Coquat & W. R. Quin, Pundt 5 (Wade City)	*	4851
M. M. Miller & Sons, Gallagher 4 (Gallagher)	400	5235
W. R. Quin, Schumacher 1 (WC) J. Poitevent sur 1	*	5204
Live Oak County—		
Clark Dr. Co., Odom et al 1 (WC) R. Everett sur	*	1650
Continental Oil, Cartwright 1 (WC) Joseph Sandman sur, taken over by Houston Oil Co.	¶10.0	7835
Nueces County—		
Southern Minerals Corp., Bertram 3 (Stratton)	600	7206
Texas Conservative Oil Co., Flinn 2-B (South Clara Driscoll)	300	5410
Union Prod. Co., Talbert 6 (Agua Dulce)	¶50.0 & 200	7200
Refugio County—		
Quintana Pet. Corp., Heard 39 (Tomoconnor)	1500	5925
Victoria County—		
W. Stewart Boyle, Byron White 1 (Heyser)	*	5748
Gulf, Traylor 41-B (Heyser)	500	5492
Titanic Oil Co., Edwards 2 (WC) Desidero Nira sur, disc Deternal fld	¶ 5.0	6264

LAREDO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Duval County—		
Continental, Driscoll, Jr. Est. A-55 (Driscoll)	600	3234
Diamond Half Oil Corp., Benedum & DeCantu 2 (WC) B.S. & F. sur	*	2788
Humble, Muil et vir 1-B (WC) Diego Hinojosa gr	*	5310
Magnolia, Benavides Hrs 1 (Cole-O'Hern)	*	3400
D.C.R.C. 8 (58) (Lundell)	50	1535
D.C.R.C 13 (132) (Cedro Hill)	20	1465
D.C.R.C. 9 (58) (Lundell)	42	1523
Jim Hogg County—		
Adams & Lefevre, Allen 3 (Manila)	300	2638
V. F. Neuhaus, Martinez (Trevino) G-2 (Colorado)	280	2942
La Salle County—		
H. R. Cullen et al, Washburn 1 (WC) L. W. Earnest sur 67, disc Washburn fld	113	8300
Starr County—		
Borsodi Pet. Co., Virginia Chapa de Vela et al 1 (WC) por 92, new sd & extend Boyle fld 1 mi s	175	4503
P. R. Rutherford & K. D. Owen, Standard Trust Co. et al 3 (Boyle)	*	3540
Sun, Montalvo 5-A (Sun)	500	4944
Webb County—		
Wm. F. Houser & Campbell, Bruni Est. 3 (Glen)	500	2165
O. W. Killam, Puig et al 1, blk 89	*	2288
Zapata County—		
Dulup Oil Co., Garza Est. 3 (WC), blk 63, Las Comitas gr	*	1713

SAN ANTONIO DISTRICT

Company, Well and Location	Init. Prod. Bbls.	Depth
Bexar County—		
Pantex Oil Co., Yturria 12 (Southton)	3	900
Southwest Dr. Co., Covell 4 (Gas Ridge)	*	445
Guadalupe County—		
Grayburg Oil Co., McKean 14 (Luling)	16	2086

Wyoming

Company, Well and Location	Init. Prod. Bbls.	Depth
Niobrara County (Lance Creek)—		
Continental Oil Co., Sam Joss 8 csw nw ne 6-35n-65w	768	5211
Sublette County (LaBarge)—		
Texas Co., Government 1-F, sw sw nw 27-27n-113w	188	1084

WILDCAT REPORT
New Starts and Completions

ALABAMA
FIRST REPORTS

Madison County—W. W. Newman, Tr.'s 10 Nichols 2, nec nw ne 2-6s-2e, elev 604 ft, sp.

COMPLETIONS

Mobile County—Geo. E. Lilly & A. R. Temple's Stafford 1, se ne sw 24-7s-3w, elev 18 ft, junked 6707 ft, Selma chalk. Plan to skid over for new hole.

ARKANSAS
FIRST REPORT

Madison County—Donald Trumbo's Ogden 1, nec 17-14n-25w, mat.

CALIFORNIA
FIRST REPORTS

Kern County—Wood-Callahan's Lubold 1, 21-30-29, lcn, Edison area. Universal Cons. Oil Co.'s Villard 1, 18-26-28, dr 980 ft, Mt. Poso area.

Los Angeles County—Antelope Oil Co.'s Duhart 1, 36-8-15, rig, Mojave area.

Ventura County—Inter-Counties Fuel Co.'s No. 1, 22-4-19, lcn, Sespe area. Madison Oil Co.'s No. 1, 24-4-22, rig. Sulphur Mountain area.

COMPLETION

Santa Barbara County—Union Oil Co.'s Pezzoni 2, 33-10-35, abnd 7977 ft, Sisquoc sand and shale, Betteravia area.

KANSAS
FIRST REPORTS

Marion County—H-L-N Oil Co.'s Shields 1, cs½ se se 19-17-4e, pits.

Osage County—Edwards et al's Detrich cnw se 21-14-15e, otd 1650 ft, dr 2200 ft.

Rice County—Carlock et al's Karber 1, cw½ nw nw 7-19-10w, dr.

COMPLETIONS

Ellsworth County—Duwe & Farris et al's Rathburn 1, ce½ ne se 6-17-8w, 2 mi ne Lorraine pool, Ft. Riley 1360 ft, Florence 1460 ft, Woodford 1550 ft, Cottonwood 1690 ft, Neva 1730 ft, Topeka 2440 ft, Lansing 2793 ft, Sooy 3245 ft, Arbuckle 3305 ft, abnd 3319 ft.

Johnson County—McCain et al's Doan 1, cel nw se 34-12-22e, 5 mi se Linwood gas pool, base Hertha 312 ft, Bartlesville sd 800 ft, Mississippi 987-1387 ft, Hunton 1428 ft, abnd 1585 ft.

Stafford County—Shell et al's Riley 1, swc 28-23-11w, Riley pool disc, Lansing 3323 ft, td 3772 ft in Arbuckle, pb 3645 ft, 36 shots 3483-93 ft, 36 shots 3451-61 ft, 6000 gals acid, 1342 bbls 25-gr.

NORTH LOUISIANA
FIRST REPORT

Concordia Parish—P. K. Hughes' Pittsfield Plantation 1, 41-8n-10e, mat.

COMPLETIONS

La Salle Parish—H. L. Hunt's Goodpine A-1, sw nw 10-7n-3e, elev 133 ft, Wilcox 2484 ft, oil sand 3350-65 ft, gas sand 3410-32 ft, oil/gas sand 3575-3600 ft, oil sand 3395-3402 ft, 35 bbls oil day, td 3699 ft.

Atlantic Ref. Co.'s Goodpine B-1, nw nw 26-7n-2e, elev 90 ft, Vicksburg 497 ft, Jackson 750 ft, Cockfield 969 ft, Cook Mountain 1542 ft, sg 1376 ft, Wilcox 2490 ft, sw abnd td 4502 ft.

Tensas Parish—H. L. Hunt's Chicago Mill & Lbr. Co. 2, csw ne 30-12n-10e, elev 62 ft, Cockfield 776 ft, Wilcox 3006 ft, abnd 4236 ft.

West Virginia

Company, Well and Location	Init. Prod. Bbls.	Depth
Braxton County—		
Z. N. Connelly, Baker 1	*	1858
Calhoun County—		
Metz Farm Oil Co., Metz 7	10	1873
Creed Yoak et al, McDonald 1	5	2214
Hancock County—		
H. J. Braden Co., Brenneman 58	3	849
Kanawha County—		
Rex. Kelly 1	¶0.08	1947
Monongalia County—		
Roy W. Clovis, Johnson 1	*	1330
Putnam County—		
E. J. Elkins, Tallman et al 1	¶2.16	1572
H. C. Morton, Callahan 1	¶.16	2100
Ritchie County—		
Clem S. Morris, Wright 1	¶0.09	2040
Wetzel County—		
Clark Fagert, Yeater 1	¶0.2	630
Wirt County—		
G. L. Shimer, Fought 1	¶0.03	1900

SOUTH LOUISIANA
FIRST REPORT

Jefferson Parish—Titanic's Marrero Land Co. 1, sec 2-13s-23e, New Orleans district, rigging up.

COMPLETION

St. Charles Parish—The Texas Co.'s State-Lake Salvador 1, disc Lake Salvador field, in like, sec 26-16s-22e, td 10,500 ft, 7-in 10,222 ft, perf 9975-9800 ft, flwd 840 bbls 37-gr oil daily ¼-in ch, tubing pressure 1600 pounds.

MICHIGAN
FIRST REPORTS

Allegan County—Alfred Urion's Tripp 1, se nw se 34-1n-16w, rig.

Cass County—Silver Creek Oil Co.'s Flynn 3, ne sw nw 23-5s-16w, rig.

Gratiot County—Vic R. Wilson's Cook 1, se ne 4-10n-2w, dr.

Missaukee County—Taggart, Ohio & Rowmor's State 43, sw sw 16-21n-6w, dr.

COMPLETIONS

Allegan County—Dapar Oil Co.'s Miller 1, se sw sw 8-3n-12w, Traverse lime 1578 ft, abnd 1592 ft.

Isabella County—Stewart Oil Co.'s Weidman 1, cw½ sw sw 11-15n-3w, Dundee 3660 ft, abnd 3770 ft.

St. Clair County—C. J. Farley's Walker 1, ne se nw 26-7n-16e, abnd 800 ft. Bach & Creech's Thompson 1, se nw sw 5-7n-17e abnd 660 ft.

Shiawassee County—Try Moore Oil Co.'s Shimunec 1, nw nw se 5-7n-2e, abnd 2265 ft.

MISSISSIPPI
FIRST REPORTS

Lamar County—Willmut G.&O. Co.'s Tatum Lbr. Co. 1, cne 14-2n-16w, rig.

Lee County—R. L. Shoemaker's Martin 1, sw sw ne 33-9s-6e, dr 600 ft.

Noxubee County—Adams & Clements' Donohoe 1, sw sw 24-16n-17e, dk.

Sharkey County—British-American Oil Prod. Co.'s Houston Est. 1, cn½ ne sw 23-11n-7w, lcn.

Tishomingo County—F. F. Mellen & Raymond Gear's Wood 1, se 21-4s-11e, rig.

Warren County—Magnolia's Luster 1, nw nw 13-14n-4e, mat.

Yazoo County—Arcarea Reserve Co.'s Holmes 1, se 22-12n-11e, mat.

COMPLETIONS

Jones County—R. W. Williams et al's Eastman-Gardner Lbr. Co., 1, ne sw 1-8n-12w, elev 262 ft, Wilcox 1905 ft, chalk 5227 ft, Eutaw (Blossom) 6617 ft, abnd 7009 ft.

Yazoo County—Joe Dawson's McGraw-Curran Lbr. Co. 1, 19-11n-3w, elev 103 ft, Wilcox 2060 ft, black shale 4150 ft, electric log to 5994 ft, abnd 6009 ft, Eutaw.

MISSOURI
FIRST REPORTS

Bates County—Browning et al's Culiver 1, sw ne se 18-39n-29w, dr.

Caldwell County—Scott et al's Dixon 1, csw sw 29-55n-28w, testing, td 405 ft, to pb.

NEBRASKA
FIRST REPORTS

Richardson County—McIntyre et al's Hough Hill 1, cse sw 6-1n-16e, lcn. Jackson et al's Eickhoff 1, cne nw 4-2n-16e, dr.

COMPLETIONS

Scottsbluff County—Farrey Pet. Co.'s McCully 1, cse se 32-23n-58w, Lyman area, abnd 2100 ft. Albert Woods et al's Patented 1, se ne ne 33-23n-57w, Morrill area, abnd 1209 ft.

OKLAHOMA
FIRST REPORTS

Creek County—Irvin Dr. Co. et al's Bailey 1, se ne se 1-18n-9e, ru mach.

Grady County—Graham et al's Cooke 1, ne se ne 35-5n-9w, dr. Murry et al's Ramsey 1-A, sec ne 31-5n-8w, pits.

Kay County—Union Natural O&G Co.'s Long 1, nwc 29-28n-1e, rur.

Okfuskee County—Viersen et al's Leonard 1, sw se nw 11-13n-7e, lcn.

Seminole County—Stanolind et al's Grisso 1, ne nw sw 15-9n-6e, testing, td 2924 ft.

Stephens County—Sun et al's Bouing 1, ne sw nw 9-1s-4w, rur. Halliburton Oil Well Cementing Co.'s Fee 1, se sw sw 5-1s-7w, ru tools. Arrow Dr. Co. et al's Stallings 1, swc 18-3s-4w, dr.

Wagoner County—Jordan et al's Meriwether 1, nec 16-18n-17e, dr.

COMPLETIONS

Muskogee County—Metzgar et al's Springer 1, sec nw 12-13n-17e, 6 mi ne Oktaha gas pool, Booch 900-1080 ft, Dutcher 2381-85 ft, abnd 2485 ft.

Okfuskee County—Burke Greis' Dew 1, nec 9-12n-9e, 1 mi s Mason, Mason pool disc, Hunton 3888 ft, td 4127 ft in second Wilcox sand, pb 3935 ft, perf 3891-3906 ft, 3890-3910 ft, 30 bbls distillate, 1,500,000 ft gas.

Pottawatomie County—Townsend et al's Lynn 1, nw ne nw 28-6n-4e, 2 mi e Asher pool, Viola 3576 ft, Dolomite 3672 ft, Wilcox 3899 ft, abnd 3925½ ft.

Seminole County—Miller et al's Davis 1, sec ne 20-10n-8e, 1½ mi nw S Cromwell pool, Calvin 1690 ft, Hen. Coal 2230 ft, Senora sd 2245 ft, Brown 3130 ft, Booch 3174 ft, Cromwell 3590 ft, abnd 3621 ft.

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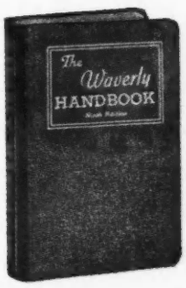

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WEST TEXAS

FIRST REPORTS

Gaines County—Frank J. Downey & Fred Postelle's James 1 cnw se CCSD&RGNG sec 368, blk G, rig.

Upton County—Maloney Dr. Co.'s Neal 1, C.&M. sec 34, A-414, 1½ mi n Rankin, lcn for 4000-ft test.

COMPLETIONS

Crockett County—J. K. Hughes Oil Co.'s Shannon 1, sec 28, blk GG, M. T. Willon-Vowell sur, elev 2863 ft, salt 970 ft, Yates 1415 ft, Soma sand (dry) 1532 ft, lime 2417 ft, abnd 2502 ft.

Dawson County—Magnolia's Sandidge 1, nec sw E. L. Ry. sec 110, blk M, elev 3189 ft, anhydrite 2195 ft, brown lime 4210 ft and solid lime 4810 ft, abnd 5345 ft.

Ector County—Stanolind O&G Co.'s Midland Farms 1-C, cnw sw G&MMB&A sec 35, blk 42, T-1-N, elev 3034 ft, Yates sand 3120 ft, Yates frosted grains 3150 ft, brown lime 4245 ft and solid lime 4540 ft, abnd 4887 ft after acid and nitro shot.

WEST CENTRAL TEXAS

FIRST REPORT

Hood County—Aztec Oil Co.'s Gallagher 1, Robt. Alway sur, mim for 3000-ft test.

COMPLETIONS

Callahan County—Merry Bros. & Perini's Yost 1, se nw nw S.P. Ry sec 18, blk 8, top Palo Pinto lime 3128 ft, abnd 3220 ft.

Jones County—Charter O&G Co.'s Nobles 1, NWc of 87½-ac lse, sec 190, B. Trevino sur A-850, elev 1667 ft, trace oil 2151-60 and 2225-47 ft, abnd 2302 ft.

Shackelford County—R. H. Roark et al's Nail Est. 1-42, nec sw E.T. Ry, sec 42, abnd 1143 ft.

NORTH TEXAS

FIRST REPORTS

Grayson County—Texas Co.'s Hutchinson 1, sec 997-ac tr, Sam Stewart sur A-1096, sp and sd.

Throckmorton County—Walter Neustadt et al's Poague 2, TE&L sec 933, sp.

Wichita County—Norwood-Dillard et al's Doyle 2, Geo. Wheelright sur A-320, mach. Panhandle Ref. Co.'s Waggoner Est. 1, A. Gibson sur, lcn 2000-ft test.

Wilbarger County—R. A. Andrews et al's Clarida 1, ne ne H&TC sec 97, blk 14, lcn for deep test.

Young County—H. W. Weir et al's Routon 1, TE&L sec 265, dr 130 ft, Wilson & Webb's Robinson 1, TE&L sec 1650, dr 575 ft.

COMPLETIONS

Baylor County—R. T. Myers et al's Portwood 1-A, nec H&TC sec 19, blk 45, abnd 905 ft.

Childress County—Texas Co.'s Smith 1, near se nw nw H&GN sec 97, blk 9, elev 1955 ft, jkd in hard chert 5569 ft.

Clay County—Bridwell Oil Co.'s Edrington 16, sec 36, W. G. Eustis sur A-850, abnd 1771 ft.

Foard County—Thomason O & Roy. Co. et al's Gamble 1, nwc 100-ac lse, s½ H&TC sec 314, blk A, (first oil producer for Allee gas pool), Canyon 2170 ft, Canyon lime saturation 2345-70 ft, used 500 gals acid, flowed 40 bbl oil 144 bbl water and 4,500,000 ft gas via ¾-in tub ch.

Throckmorton County—Walter Neustadt et al's Brown 5, sec 1608, abnd 704 ft, Poage 1, sec 933, abnd 535 ft; Spain 1, swc TE&L sec 940, abnd 641 ft.

Wichita County—Ted Norwood et al's Doyle 1, DL&C Co. sur A-320, abnd 1436 ft.

TEXAS PANHANDLE

FIRST REPORT

Hutchinson County—Ed. J. Dunigan et al's Mayfield 1, sw nw nw sec 2, A. B. Pedigo sur, lcn.

SOUTH TEXAS

FIRST REPORTS

Atascosa County—D. L. Higgins et al's Shannon 1, 1985 ac, D.L. & C. Co. sur 1098½, 16 mi s Charlotte, lcn.

Bee County—Dirks Bros'. Dugat 1, 440-ac tr, James Gray sur, 5 mi w Tuleta, mo.

Bexar County—Joe A. Noake's Medina Irrigated Farms 2, 90.39-ac tr, William Miller sur 180, ½-mi s Atascosa, dr 236 ft, T. O. Woodruff's Ramm 1, 251-ac tr, Jose Antonio de la Garza gr, 14 mi s San Antonio, lcn. J. A. Pierce's Janszen 1, Lysander Wells sur 39, 1 mi n Southton, lcn.

Burnett County — Belanger & Rucker's Evans 1, 1400-ac blk, 10 mi se Marble Falls, Spice-Woods area, 10¾-in csg 100 ft, dr 525 ft.

Cameron County—Pure's Garcia Land & Livestock Co. 3, 7126.15-ac lse, Santa Isabel gr, 3 mi sw Point Isabell, dr.

Duval County—Ike Howeth's Kreis 1, I. & G. N. sur 68, 2000-ac lse, 17 mi nw San Diego, lcn. Humble's Central Securities Co. 1, 539.45-ac lse, Diego Hinojosa gr, 1½ mi nw Crestonio, lcn.

Jim Hogg County—Guy A. Davis' Holbein 1, sec 4, 2000-ac tr, blk 35, 15 mi sw Hebbronville, dr 1200 ft.

Jim Wells County—C. A. Daubert's True 1, 200-ac tr, Los Presenos D. E. Abajo gr, 7 mi ne Alice, lcn.

San Patricio County—British American Prod. Co.'s Ragsdale 1, 60-ac lse, M. Hunt sur, ab 168, J. H. Drummond subd, 7 mi se Odem, dr 1475 ft.

Victoria County—Glen H. McCarthy's Urban 1, 161.37-ac lse, R. Manchola sur, ab 87, se of Coletto Creek fld, dr 5914 ft.

Webb County—Seaboard Oil Co. of Delaware's Newton 1, sur 481, 18 mi nw Oilton, mo.

Zapata County—Dulup Oil Co.'s Haynes 1, blk 17, Haynes subd, Villa gr, 15 mi s Escobas, lcn.

COMPLETIONS

Cameron County—Pure's Garcia Land & Livestock Co. 2, 7126.15-ac tr, Santa Isabel gr, 5000 ft e & little n No. 1, 3 mi sw Point Isabell, abnd 3500 ft. Garcia Land & Livestock Co. 3, 7126.15-ac lse Santa Isabel gr, 3 mi sw Point Isabell, abnd 3522 ft.

Duval County—Diamond Half Oil Corp.'s Benedum & DeCantu 2, sec 564, B.S.&F. sur, w Hoffman fld, 8 mi s Freer, abnd 2788 ft. Humble's Muil 1-B, 561.23-ac tr, Diego Hinojosa gr, abnd 5310 ft.

Goliad County—Continental's Reed 1, 200-ac tr, Sebastian Vela sur, 3 mi e Charco, abnd 5127 ft.

Jim Wells County—W. R. Quin's Schumacher 1, 280.5-ac tr, J. Poitevent sur 1, ab 358, O. W. Killam farmout, 3 mi nw Orange Grove fld, ¾-mi nw Wade City fld prodn, Bierstadt 4669 ft, McNeill 4760 ft, Alice 4804 ft, abnd 5204 ft.

La Salle County—H. R. Cullen et al's Washburn 1, L. W. Earnest sur 67, 8 mi sw Fowlerton, Wilcox 3612 ft, 5½-in csg 5615 ft, td 8300 ft, 113.64 bbls, ⅜-in ch, 50 lbs, tp, 650 lbs cp, perf 4860-67 ft, 41.5-gr, 13 percent brackish wtr, gas/oil ratio low, opens Washburn fld.

Live Oak County—Clark Dr. Co.'s Odom 1, blk 30, 40 ac lse, R. Everett sur, 2 mi w Three Rivers, abnd 1050 ft.

Starr County—Borsodi Pet. Co.'s Vela 1, 163.8-ac tr, sh 2-A, por 92, Sun farmout, 1 mi s Boyle fld, 5½-in csg 3239 ft, td 4503 ft, recomp 86 bbls, ½-in ch, 600 lbs tp, 1040 lbs cp, perf 3167-75 ft, new sd and extends field 1 mi s.

Victoria County—Titanic Oil Co.'s Edward 2, 3762.16-ac tr, Desidero Nira sur, ab 91, 7 mi n McFaddin fld, 3700 ft sw Titanic's Edwards 1, 5½-in csg 5148 ft, td 6264 ft, comp, est 1,500,000 ft gas day, ½-in ch, 1550 lbs tp, 1625 lbs cp, perf 5036-41 ft, opens Deternal fld.

Webb County—O. W. Killam's Puig 1, blk 89, Edgington subd of Las Albercas gr, 1½ mi n Glen fld, abnd 2288 ft.

Zapata County—Dulup Oil Co.'s Garza 3, blk 63, C. A. Douglas subd, Las Comitas gr, Zorro ranch, 8 mi s Escobas, e No. 1 dry hole, abnd 1713 ft.

TEXAS GULF COAST

FIRST REPORT

Matagorda County—Helmerich & Payne's Heumann 1, B. Burnett sur, 8 mi e Bay City, lcn 9500-ft test.

EAST TEXAS

FIRST REPORT

Nacogdoches County—McDaniel et al's Seale 1, T. J. Johnson sur, 1½ mi se Melrose (water well), sand 2514 ft, dr 2520 ft.

COMPLETION

Van Zandt County—R. W. Fair & A. D. Clark's Chas. W. Hallman 1, R. T. Wheeler sur, 4½ mi sw Van, elev 531 ft, Pecan chalk 2555-2775 ft, Austin chalk 3686-3999 ft, Woodbine sand 4296 ft, abnd 4379 ft.

Michigan Schedules Auction On 38,344 Acres of State Land

In the largest offering this year, 38,344 acres in 10 counties of Michigan state-owned land will be offered for leasing at public auction in Lansing, October 4. All of the acreage was listed as wildcat when the descriptions were approved by the Michigan Conservation Department but at least three different 40-acre leases may be in the semi-proven class by sale time.

A 40-acre lease in Hamilton Township, Clare County, offsets a drilling well a mile north of Sun Oil Company's McKenna discovery; another 40-acre lease is ¼ mile northwest of Drury's Yager 1, a 700-barrel producer in the South Beaverton, Gladwin County field, and a third 40-acre lease is a mile north of Sun Oil Company's State 1, Winterfield Township, Clare County.

A total of 6716 acres will be offered in Kalkaska County, Township 28n-7w, as the largest single block for the sale.

MEN IN THE INDUSTRY'S NEWS

WILLIAM WATSON has been named field representative in the lower Gulf Coast territory for Texas Rubber & Specialty Corporation, Houston. Watson, who will make his headquarters in Victoria, has been inspector of locomotives for Santa Fe Lines for five years, was with Murray Tool & Supply Company two years, was in charge of material reclamation for Phillips Petroleum Company for two years, and was sales manager for D & M Machine Works for five years.

J. D. DAVIS, district pipe line superintendent for United Gas Pipe Line Company at Jackson, Mississippi, for the past 8 years, has been named district manager to succeed the late J. P. Rogers. Davis entered the service of one of the company's predecessor companies in 1924 as a timekeeper, advancing to district foreman at Beaumont in 1930. Te was made section foreman at Nederland, Texas, in 1932, and in the same year was transferred to the Jackson district.

R. T. GERMAN, West Texas field superintendent for Magnolia Petroleum Company, has been transferred from Odessa to the Dallas general office to become assistant to Joseph Kilchenstein, superintendent of the Texas-New Mexico division. C. E. Taylor, lease foreman in West Texas, succeeds German, and will change headquarters to Brownfield, Texas, upon the completion of the company's new camp.

GEORGE A. HILL, JR., president of the Houston Oil Company of Texas and chairman of the American Petroleum Institute's Division of Production, will discuss "The Place of Petroleum in the National Defense" before the East Texas chapter of the A.P.I. at Kilgore October 9, 1940. The meeting precedes a 3-day celebration arranged by the city of Kilgore commemorating the tenth anniversary of the East Texas field, and starting October 10.

ROBERT E. MARKHAM, 52, Tulsa oil operator, died September 20 of a heart attack at Mount Vernon, Illinois. A native of Bradford, Pennsylvania, Markham entered the oil business first as a leaser, then a driller and as a contractor. Later he became an oil producer, and has been active in the Mid-Continent for more than 30 years.

LaMAR JONES, 39, petroleum engineer for Humble Oil & Refining Company at Houston, died in a Houston hospital shortly after being injured in a traffic accident near Houston September 23. Born in McLean County, Illinois, June 22, 1901, Jones received his early education in Wyoming. He then worked for The Ohio Oil Company and later attended the University of Oklahoma and was graduated in petroleum engineering in 1928. He then joined Humble Oil & Refining Company, being located in its North Texas division, at one time being district superintendent at Pampa. On January 1, 1935, he was transferred to the petroleum engineering department at Houston.

S. X. WILLARD, former sales manager of Econo-Vent Corporation, Chicago, is now associated with Graver Tank & Manufacturing Company, Inc., East Chicago, Indiana, as conservation engineer. He will devote his time to introduction and sale of conservation equipment and will make his headquarters at the company's Chicago office.

A. D. MacLEAN, chief engineer for Pittsburgh Equitable Meter Company, Pittsburgh, since 1926, has been elected vice president of the company. A graduate of Harvard University's school of engineering, MacLean served in the Army Air Service Corps on graduation. He joined Ashton Valve Company, Cambridge, Massachusetts, as chief draftsman following the World War, and later joined the engineering department of New Departure Division of General Motors Corporation.

DAVID HANNAH, Houston, last week was named chairman of the executive committee of Houston Oil Company of Texas, succeeding the late T. S. Maffitt, St. Louis. Ethan A. H. Shepley, St. Louis, a director, was named to the executive committee, while R. R. Hobson, Houston, general manager of the company, was named to the board.

Sam W. Fordyce, St. Louis, and A. W. Standing, Houston, were named to the board of the Houston Pipe Line Company.

ARNOLD BUNTE, geologist, reviewed highlights of the twelfth annual field trip of the Kansas Geological Society before the Tulsa Geological Society recently, while A. Rogers Denison, chief geologist for Amerada Petroleum Corporation, Tulsa, discussed the Homestake gold mine of South Dakota, also visited on the tour. R. J. Cullen, geologist for Sun Oil Company, presided.

HARRY S. MOSS, Dallas operator and discoverer of the Pittsburg deep oil pool in Northeast Texas, has organized the H. S. Moss Petroleum Company with a Delaware charter and capital of $37,500.

J. P. CHASTAIN, 46, driller for the Jennings Drilling Company and a resident of Wichita Falls, was fatally injured September 20 while at work on a rotary rig in the K-M-A field.

FREDERICK L. CHAPMAN, member of the sales organization of Gisholt Machine Company, Madison, Wisconsin, for the past 11 years, recently as assistant sales manager, has been named sales manager.

J. M. KESSLER last week resigned as president, director and managing officer of Kessler Oil & Gas Company to devote his time to personal affairs. He will continue to make his home in Oklahoma City.

J. E. Thier, Hackensack, New Jersey, has been named president of the company, while J. S. Harris, secretary-treasurer, has been made vice president and manager of operations. The company has production in the Oklahoma City and several Creek County fields of Oklahoma, and has interests in New Mexico and the Texas Permian basin.

T. B. GILBERT and A. H. Henderson, production superintendents for Magnolia Petroleum Company in the Electra and Olden, Texas, districts, respectively, will be retired October 1 under the company pension plan. The two districts will be consolidated, and G. F. O'Brien will be promoted as superintendent with headquarters at Electra.

P. F. LESH and C. S. McCall, North Texas operators, have organized Highlander Gasoline Company, with headquarters at Nocona, to install a natural gasoline plant in the Rogers & Rogers pool. The project was authorized last August, and will serve 31 deep wells.

BOB ELMORE, West Central Texas operator and a resident of Fort Worth, is president of the Elmore Oil Corporation, a new firm with headquarters at Durant, Okla. J. H. Patterson of Oklahoma City, is vice president, and W. H. Clarke is secretary-treasurer.

R. T. NELSON, Southwest Texas district scout for Superior Oil Company of California for the past four years, has been elected bull scout of the Corpus Christi check-meet. He succeeds F. D. Johnson, of Houston Oil Company.

EARL PERRY, scout at Baton Rouge for Sinclair Prairie Oil Company, has resigned his position to join the Civil Aeronautical Authority as a flying instructor.

JOHN E. MILLAR, district superintendent for Sinclair Prairie Oil Company at Great Bend, Kansas, is improving after a recent emergency appendectomy.

SAM BAIRD, chief scout for Mid-Continent Petroleum Corporation, Tulsa, has returned from a vacation spent at Green Leaf Lake in Cookson Hills, Oklahoma.

GEORGE M. CLASS, chief engineer for Gisholt Machine Company, Madison, Wisconsin, has been named vice president in charge of engineering. He has been with the company for 16 years.

JACK SEARLES, former driller for de Bataffsche Petroleum Maatschappij in Borneo, recently sailed for Trinidad after a short stay in the United States.

DR. E. N. KEMLER, chief production engineer for Gulf Oil Corporation at Tulsa, has resigned to accept an associate professsorship in the mechanical engineering department of Purdue University. Prior to taking over duties in

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Tulsa, Kemler was engaged in research work at Mellon Institute, Pittsburgh, and also instructed at the University of Pittsburgh. He has written on various petroleum problems, specializing in mechanics of pumping. Kemler is succeeded at Tulsa by D. O. Barrett, former division engineer and assistant superintendent at Chase, Kansas.

NORMAN V. KINSEY, Shreveport operator, has been named head of a Louisiana state-wide organization perfected last week to push the candidacy of Wendell L. Willkie. Kinsey and the presidential candidate attended school together at Elwood, Indiana, and were boyhood chums.

GEORGE H. JOHNSON has been named president of Ginsholt Machine Company, Madison, Wisconsin, succeeding his father, Hobart S. Johnson, who is now chairman of the board. H. S. Johnson, Jr., has been elected a vice president, while A. B. Morey continues as treasurer and G. E. Gernon as secretary.

VERL L. ELLIOTT, controller for The Atlantic Refining Company, Philadelphia, was named president of The Controllers Institute of America during the organization's annual meeting held in New York last week. He served as one of the five vice presidents of the organization last year.

D. K. HUTCHCRAFT, Mid-Continent sales manager for Clark Bros. Company, has returned to his Tulsa office after a business trip to Miami Beach, Florida, followed by a holiday visit in Havana, Cuba.

FREDERIC R. SPEED, Chesapeake City, Maryland, has been appointed automotive engineer for the Pennsylvania Grade Crude Oil Association. He will establish headquarters in Detroit.

JOHN PICKETT ROGERS, 49, district manager for United Gas Company at Jackson, Mississippi, died there September 17.

PAUL PITZER and C. K. West, West Central Texas operators with headquarters at Breckenridge, have been appointed colonels on the staff of Governor John E. Miles of New Mexico.

JOHN J. SHEERIN, E. E. Deback and C. C. Small last week organized Stratton Pipe Line Company with headquarters at Corpus Christi.

RALPH O. DIETLER, Stanolind Oil & Gas Company, has been elected president of the Southwestern Art Association, which administers Philbrook Art Museum in Tulsa.

BRUCE BARKIS, of B & W, Inc., will discuss "Improved Technique for Primary Cementing" before the first fall meeting of the Gulf Coast Section of the American Institute of Mining & Metallurgical Engineers October 1 at the Lamar Hotel, Houston. The meeting will open with a dinner at 6:30 p.m.

GEORGE J. CHURCHILL, general superintendent of drilling and production for Arrow Drilling Company, has moved his headquarters from Odessa, Texas, to Fort Worth, where the company recently established a division office in the Sinclair Building.

HAROLD D. PATRIDGE, manager of purchases for Indian Territory Illuminating Oil Company, Bartlesville, is convalescing at Hot Springs, Arkansas.

M. T. FAIRCHILD, formerly at Bartlesville, is now assistant superintendent of the Ponca City district of the Empire Pipe Line Company. He succeeds J. W. Fagan, who was recently transferred to Illinois.

J. R. McWILLIAMS, president of Louark Producing Company, Shreveport, was a Tulsa visitor last week, conferring with officials of The Carter Oil Company.

RICHARD HUGHES, geologist and land man for Seaboard Oil Company, has returned to Tulsa after vacationing at Grand Rapids, Michigan.

JAMES O. LEWIS, of Dunn & Lewis, Tulsa oil producers, is in Trinidad, British West Indies, on business.

V. E. BUSBY, formerly an employee of the Russian government and recently of Tulsa, addressed members of the Presidents Club, September 27 on the "Foreign Oil Situation."

PAUL F. LEWIS, American Glycerin Company, Tulsa, addressed the Engineers Club of Tulsa last week on "New Trends in Oil Well Shooting and Mixing of High Explosives."

D. O. BARRETT, chief engineer for Gulf Oil Corporation, Tulsa, will discuss "Practical Developments in Oil Field Equipment" before a joint meeting of the American Society of Mechanical Engineers and the Engineers Club of Tulsa on October 7.

BOB MORTON, purchasing and stores division of Shell Oil Company, has been transferred from Tulsa to Centralia, Illinois.

TOM STEELE, production department of Shell Oil Company, has been moved from the Tulsa laboratory to Tonkawa, Oklahoma.

J. E. WHEATLEY, district superintendent at Lovell Lake for Humble Oil & Refining Company, has been transferred to the Galveston Bay District. He is replaced at Lovell Lake by C. H. Keen.

J. P. ROACH, chief clerk at Pampa for Humble Oil & Refining Company, has been transferred to the Hobbs district, replacing E. M. Jones.

J. A. WHEELER, Navarro Oil Company, and Castel Harvey, Amerada Petroleum Corporation, gave a paper on "Report of Subsurface Wilcox Study Group and Discussion of Sections" before the Houston Geological Society last week.

P. E. FITZGERALD, of Dowell Incorporated, Tulsa, addressed the Tulsa chapter of the Nomads club last week on "Recent Trends in Turner Valley Development."

NOTES FOR THE Equipment Buyer and User

Drilling Head
THE GUIBERSON CORPORATION

A rotary drilling head incorporating essential elements of a rotary table—kelly bushing, slips and slip bowl—and designed for completion and clean-out work, has been announced by The Guiberson Corporation, Dallas, Texas.

Guiberson Type H Rotary Head

Designated Type H, the head is designed to provide a positive pack-off while drilling, and also when running drill pipe or tubing. A rubber packing medium effects a seal around any standard kelly, either square, hexagon or fluted, from 2½ to 3½ inches, or tubing, drill pipe, collars and tool joints to a maximum outside diameter of 3½ inches. The head incorporates a built-in blow-out preventer and stripper combination.

Power may be delivered to the driveshaft through a flexible coupling or universal joint from a gas engine, electric motor or draw-works shaft. Direct transmission or V-belts can be used, depending on the speed of the driving element and the speed desired of the drilling head. The driveshaft is provided with a 12-tooth pinion which drives a 48-tooth ring gear on the drilling head core, providing the head with a 4-1 gear ratio.

The unit is 41½ inches tall.

Electric Plant
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

A new self-contained AC generating unit that regulates, controls and meters its output has been announced by Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

Designated "Simpac," the power unit combines a standard open-type AC generator, a direct-current exciter, exciter-field rheostat, voltmeter, ammeter, and optional voltage regulator in an integral unit. It may be engine or electric-motor driven, direct or belt connected.

The exciter is mounted on a fabricated steel shelf above the generator and is driven off the generator shaft extension by a V-belt. Control, regulator and meters are enclosed in a sheet-steel cabinet fastened to one side of the generator frame. Voltage is adjusted manually by the exciter field rheostat. Generators used have an inherent regulation of 10 percent at 80 percent power factor, while voltage variation may be improved to as low as 1½ percent by use of an automatic resistance-type regulator.

Ratings from 3.75 to 187 kva are available with voltages of 120/208, 240 or 480, with operating speeds from 600 to 1800 rpm. Units above 187 and up to 312 kva are available with separately mounted controls.

Volt-Ammeter
GENERAL ELECTRIC COMPANY

A portable hook-on volt-ammeter for measuring alternating current and voltage has been introduced by General Electric Company, Schenectady, New York. It is designed for instantaneous reading of alternating current on both insulated and non-insulated conductors by hooking the instrument around the line. For voltage readings, it is necessary to connect two leads furnished with the instrument and then flip a thumb-manipulated selector switch to the desired voltage position on the scale.

It is designed for use on conductors of 2-inch maximum diameter, small enough to get into tight places, and light enough to be hung from a lineman's belt. Four current ranges, 0-15/60/150/600 amperes, and two voltage ranges, 0/150/600 volts, are available at setting of a 6-position snap switch.

The transformer, indicating instrument, internal resistors for extending the range, and selector switch are all mounted in a textolite case. The handle, molded as part of the case, is designed to provide insulation and safety for the operator. A slot for a carrying strap is molded in the handle.

Flame Hardening

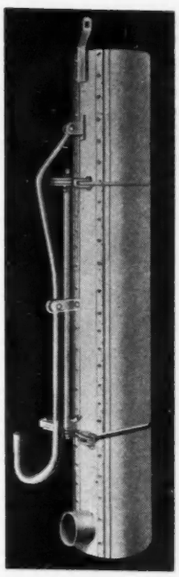
Air Reduction Sales Company, 60 East 42 Street, New York, has issued a 12-page bulletin on "Flame Hardening Apparatus," making available details on considerations and apparatus involved in flame hardening surfaces of various forms. It describes the company's Style 4383 water-cooled flame-hardening torch with a variety of extensions and types of tips, torch holders, adjusting arm and the Radiagraph, a portable machine for mounting the flame-hardening torch.

Mud Saver
MILLER OIL WELL TOOLS

A mud saver designed to wrap around the drill stem at the joint, trapping drilling mud when breaking out drill pipe and returning it to the mud ditch through a flexible steel hose attached to an outlet on the tool, has been announced by Miller Oil Well Tools, 5522 Rimpau Boulevard, Los Angeles.

The device, suspended from a cable attached to the derrick, is operated by one man from the rear. It automatically locks around the drill stem, and is supplied with sealing rubbers interchangeable to fit all drill stems.

The mud saver is made of Corten steel, designed not to pit or corrode from rust.



Miller Mud Saver

Air-Cooled Transformer
WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

Air-cooled transformers of advanced design to provide a higher factor of operating safety, designated Type ASL, have been announced by Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

Designed for installation in buildings where safety is essential, the units have 60-cycle ratings ranging from 150- to 500-Kva inclusive for single-phase and 150- to 1000 Kva inclusive for 3-phase, voltages 13,200 and below.

The housing is constructed of expanded metal finished in a black baked-on moisture-proof enamel to permit a free and easy flow of air from all sides and to provide safety against accidental contact with live terminals. The primary and secondary coils are separated by spaces through which a stream of air circulates. Windings are designed for a 75° C. temperature rise under continuous full-load operation.

Heat-resisting insulation, including porcelain, asbestos, mica, glass and air, are used throughout to allow operation at higher temperatures than are permissible with liquid-filled transformers.

Blowers

Allis-Chalmers Manufacturing Company, Milwaukee, has issued Bulletin B-6048 on its single-stage turbo-blowers for use where large volumes of air or gas are needed at pressures from one to 6.25 pounds. It gives their method of operation and characteristics, illus-

NOTES FOR THE Equipment Buyer and User

—Hawthorne Studios

A scene at a recent barbecue of the California Nomads chapter. Pictured, with faces to the camera, left to right, are Eddie Thompson, A. M. Flint, Ralph Porter, Ron Smith, Karl B. Jauman, George McDonell, Jay Curts and M. E. Montrose.

trating and describing various single-stage motor and mechanically driven blowers including geared-head, overhung and pedestal types, as well as double inlet blowers for large volumes. Several pages are devoted to blower accessories such as blast gates, constant air weight control for cupolas and speed governors.

New York Nomad Group Plays Golf and Dines

An afternoon golf tournament and a dinner for 65 featured the September monthly meeting of the New York chapter of the Nomads recently at Englewood Country Club. John Baird, oil equipment exporter of New York and president of the chapter, and Frank Brown, also a New York exporter of oil equipment and master of ceremonies of the chapter, awarded the golf prizes.

Welding

Bonney Forge & Tool Works, Allentown, Pennsylvania, has issued Bulletin WT29, containing 20 pages describing the company's line of welding outlets for piping. The fittings are available for all standard pipe sizes with outlets from ¼ inch to 12 inches.

Standco
NO-SMOKE
STANDCO BRAKE LINING
Is the driller's best friend because it makes the easiest brake known and "feeds off" evenly while drilling. It never scores brake rims. See Page 2100 Composite Catalog.
Standco Brake Lining Co.
HOUSTON

California Nomads Hold Barbecue at Brea Canyon

Inaugurating what is destined to be the first of regular annual barbecues, nearly 250 California Nomads and guests gathered in Barneson Park, Brea Canyon, September 11. Ninety-six oil men who have seen service in foreign oil fields or who are at present actively engaged in foreign oil-field work were guests.

The party, which started at six in the evening and lasted until well after midnight, was probably the largest and most successful ever staged by the local Nomad group.

Chairman of the entertainment committee was Ernie Fowks, assisted by Tom Murphy, Henry W. Pullman, Bill Bettis and Hi Cassidy, while C. Gravett supervised the barbecuing.

A portable radio offered as a gate prize to foreign guests went to J. P. Schoesslin. Nine prizes offered to winners of the various games were awarded to L. C. Nielson, Cecil Winslow, Frank Knox, C. B. Newton, Whitey Paddock, Ralph Johnston, B. T. Weaver, Frank O'Neil and Walt Hanline.

The next regular meeting will be held October 9.

Tool Steel

McKenna Metals Company, Latrobe, Pennsylvania, has issued a 6-page folder, "Cut Steel Profitably with Kennametal Tools and Blanks," describing how Kennametal is manufactured, where it can be used and describing its use in machining steel of hardness up to 550 Brinell. Tables describe the comparative physical properties of the product, materials machined with it, and recommended speeds for machining steels of various hardnesses. Illustrations show typical turning, milling and shaping operations employing Kennametal-tipped tools.

Petroleum to Be Subject of Republic Steel Radio Program

A dramatization of the petroleum industry and the part it has played in the advancement of modern civilization will be presented by Republic Steel Corporation October 8 as one of a series of radio programs released in Spanish. The series features American industries in partnership with steel and are being presented in an effort to further the cause of good-will between the Americas. The program may be heard at 8 p.m., eastern standard time, via the international short wave station WGEO, Schenectady, New York, on a frequency of 9530 kilocycles, 31.48 meters.

Oil Well Supply Company Rearranges Tulsa Headquarters

Oil Well Supply Company, Dallas, recently completed changes in its Tulsa headquarters by establishing an uptown office in the Kennedy Building and moving its branch store into new quarters at 406 West First Street, across the street from its former location.

The changes follow sale of the company's former properties, and were motivated in part to provide a more convenient office for supplying technical information to engineers and purchasing departments.

E. E. Robbins heads the company's Tulsa sales organilation.

Coffing Hoist Moves to New Office-Factory Building

Coffing Hoist Company, Danville, Illinois, has moved to a new factory and office building containing 36,000 square feet of floor space.

The company was organized in 1928 to produce a ratchet lever hoist. A small shop measuring 16 x 18 feet was the company's headquarters. The company moved to larger quarters two years later, and additions to its line during the past 10 years made necessary the third change in its 12-year history.

Welding Blue Print Book By Lincoln Electric Company

"Simple Blue Print Reading with Special Reference to Welding" has been published by The Lincoln Electric Company to afford a basis for study of blue print reading for welders and others concerned with mechanical construction.

The text, concisely written in simple, practical language, is supplemented by drawings. It takes up the following subjects: simple welded objects presented as a study; picture drawings of the subject; perspective drawing; isometric drawing; limitations of these and other types of picture drawings; showcase views of the subject; three views necessary to give complete showcase description; line-of-sight projection views; bringing three views to the same plane as on a sheet of paper; further analysis of point- and line-projection; hidden and visible outline; center, dimension, extension, break and cutting-plane lines; examples of simple and complex blueprints with picture drawings to explain them; dimensions, how presented and how interpreted; scale, usefulness of transformation in size by a known ratio; explanatory views; return to a showcase viewpoint to solve the problem of presenting and interpreting slanting surfaces

accurately; examples of necessary explanatory views and picture drawings to help in studying them; sections, cutting a piece for clear presentation to the reader; broken views, omitted parts of drawings; screw thread interpretation; study of appearance, discussion and example; development of the basic weld symbol, the arrow, method of indicating weld position; method of indicating type, size, shape and length of weld and other necessary information; analysis of complete weld symbol and its use; sections of over 35 different welds with their corresponding symbols; examples of previous instruction drawings with welding symbols added, and special symbol instruction drawings.

Copies may be obtained from the Book Department, The Gulf Publishing Company, Box 2608, Houston, at 50 cents a copy, postpaid in the United States, and 75 cents elsewhere.

Wire Rope

Union Wire Rope Corporation, 21 Street and Manchester Avenue, Kansas City, Missouri, have issued a catalog describing the step by step process of fabricating wire rope. Processes included are heat treatment of rods, cleaning and baking, drawing the wire, testing the wire, spooling and stranding, and closing.

Transmission Belting

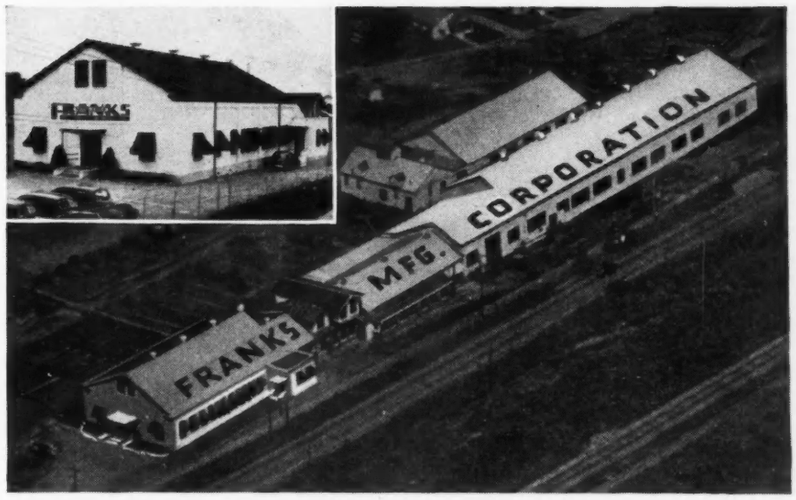
B. F. Goodrich Company, Akron, Ohio, has issued a 4-page catalog section describing its line of transmission belting, belt dressing and Plastikon stick dressing. It gives net weights of each belt per inch of width per 100 feet, and includes a table on stock sizes of transmission belting, including belt widths and number of plies.

Air Hose

Sullivan Machinery Company, Michigan City, Indiana, has issued Bulletin 87-Z on its line of hose for use with air tools in the petroleum and other industries, of tough hose for heavy construction, flexible hose for easy handling, combination air and water hose, and suction hose.

Pipe-Line Equipment

American Steel Works, 27 Street & Southwest Boulevard, Kansas City, has announced Catalog 100 covering its line of pipe-line, road-maintenance and contractors equipment, steel tanks and oil burners. It includes descriptions and illustrations of portable heating kettles for pipe coating, surface heaters, supply tanks, air-pressure distributors, torches, and water heaters using wood, coal, coke or oil for fuel.



Aerial view of the recently enlarged plant of Franks Manufacturing Corporation at Tulsa, which doubles the capacity of the plant, with the remodeled office building shown in the inset. Additional space for engineering and office forces have been provided, and employment in the enlarged plant has been increased from 70 to 170 men.

NOW! Data and Methods you need to solve any piping problem

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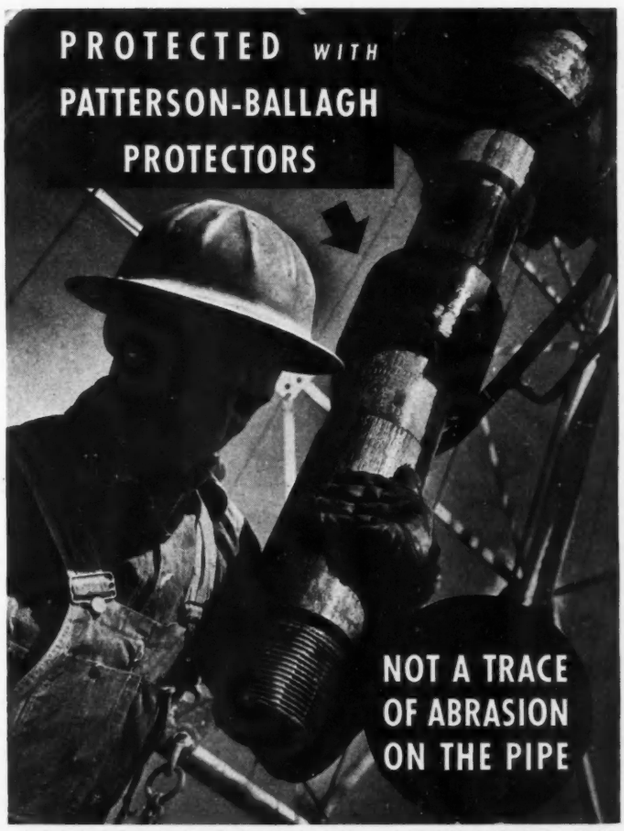

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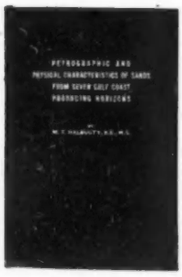

The material printed in this book was first published in The OIL WEEKLY in a number of installments, extending over a seven-week period. Because of the widespread interest and demand for copies, it is being presented in book form for the benefit of those who may wish to study or continue the research work of M. T. Halbouty, the author.

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Letters

[Continued from page 6]

ernment agent deciding what was and what was not efficient.

The ideal method, and I think the reasonable and practical solution would be to produce virgin fields only at an efficient rate, but considering always the market demand optimum. In other words, if even the efficient rate exceeded the consumptive demand, then those pools should be further restricted under proration to the estimated consumptive demand. One needs but look to Illinois to know how true this is . . .

W. C. D.
Tulsa, Oklahoma

DEAR SIR:

In the last (10th) form letter sent me it was suggested that I either send in my money for a subscription renewal or tell why I didn't like your magazine. As a matter of fact, I like your magazine very much, but I would like to make a suggestion.

It has gotten to the point that an engineer has a hard time getting along unless he has quite a large variety of information at his disposal. Consequently, most of us have started cutting out all articles of engineering interest for filing. But there is one thing about your magazine that makes this difficult. That is the fact that you often start a second article on the back side of the page on which you ended the first article. Usually this is not the case, but it often is. If two articles so connected belong at opposite ends of one's filing cabinet it makes filing of both articles impossible.

I know that there are many engineers and production men that would appreciate it very much if engineering and operating articles were separated by advertising, or at least by the hinges that keep the pages together.

NAT G. HASELSTINE,
Engineer
Sun Oil Company,
Kilgore, Texas

Unless reader Haseltine acts on our Circulation Department's tenth reminder and hastens his renewal subscription he will have nothing to put in either end of his filing cabinet! The problem of arranging editorial material for easy removal and filing without detracting from effective presentation is one that has given industrial publishers many a sleepless night. There are some who prefer to have all editorial material and advertising grouped separately with special volume indexing so that text matter may be kept intact and card index kept for easy reference. Others suggest the more simple method offered by this reader. The editors will give full consideration to the problem again at their forthcoming annual conference and will appreciate further discussion by other interested readers.

Squeaks from the Bull Wheel

After the Draft

"See here," says the captain, "this thing is a rifle. Here is the barrel, there's the stock. You slip the cartridge in there. Now you put the weapon to your shoulder. These little things on the barrel are the sights. When you have taken accurate aim, pull this little thing which is the trigger. Now remember what I have told you. Smarten up and look like a soldier. By the way, what is your business? A clerk, I suppose?"

"No, sir, I'm a gunsmith."

Slight Change

The young bride was asked what she thought of married life.

"Oh, there's not much difference," she replied. "I used to wait up half the night for George to go, and now I wait up half the night for him to come home."

Dave Gerald, in Collier's

"It was the last car off the line when they were switching to low-cost bombers."

The Definite Rejection

"I—I—have proposed at last—and have been turned down."

"Oh, that will turn out all right. A woman's 'no' often means 'yes'."

"Perhaps it does, but this woman didn't say no; she just laughed."

Natural Deduction

"How old is the baby?"
"Six months."
"Talk yet?"
"No, not yet."
"Boy, eh?"

Yankee Wit

My friend, I don't see how you make a living on this farm. Look at the rocks everywhere!

I ain't so poor as y' think I be. I don't own this farm.

Right

"What do they mean by twaddle?"

"That refers to arguments advanced by the other side."

Domestic Moses

"I understand that your wife thought of taking up law before she married you."

"That is so. Now, however, she's content to lay it down!"

Well Qualified

It's a very heavy job, you know. Do you think you are fit for really hard labor?

Well, I am not so sure, but some of the best judges in the country have thought so.

Nuisance Charge

"But I'll be assisting you in the kitchen. Would you be wanting the same wages?"

"No, mum. Two dollars more."

Golf

"This is absolutely terrible. I have never played so poorly before."

"Oh, then you have played before?"

Not What He Expected

"Who made her dress?"

"I'm not sure, but I think it was the police."

Patience Exhausted

When a meek-looking man applied for settlement of a claim for fire insurance, the agent asked: "Much damage?"

"Not much," the man said; "just a door."

"How much would a new door cost?"

"About $5."

"When did the fire occur?"

The man hesitated a moment, then replied:

"About thirty years ago"

"Thirty years ago?"

"Yes."

"And you've waited all these years to report it?"

"Yes."

"How did it happen?"

"Well," said the man, "my wife has been at me to do something about that door ever since it was burned, and I couldn't stand it any longer."

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NEAREST HOTEL TO RADIO AND MOVIE STUDIOS
TWO GUESTS ONE PRICE

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*Reda Pump Co.	—
*Reed Roller Bit Co.	—
*Regan Forge & Engineering Co.	—
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Witte Engine Works	—
*Worthington Pump & Machinery Corp.	—
Wyatt Metal & Boiler Works	—

Y

Youngstown Sheet & Tube Co.	—

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We strongly recommend the use of No. 5 stellited couplings in bad wells. They wear longer; reduce breakages, kinks and down time; and work to keep up production. No. 5 stellited couplings are made in $\frac{5}{8}$-in., $\frac{3}{4}$-in., $\frac{7}{8}$-in. and 1-in. sizes, box and box type.

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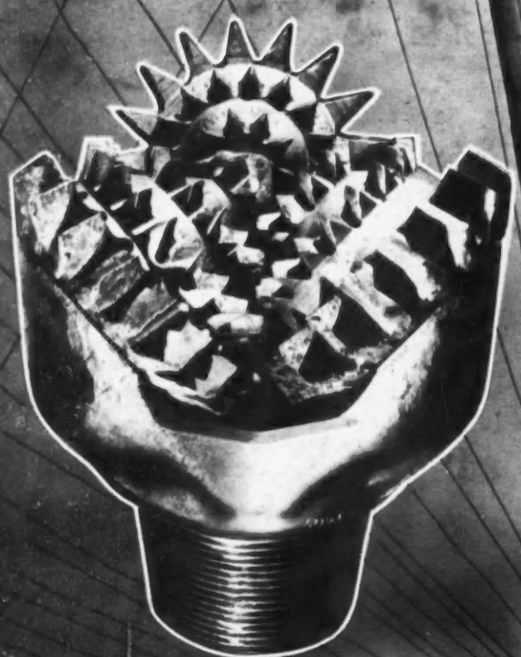

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